Appendix A: Copies of CEMS Root Cause Failure Analysis and Corrective Actions Plans

There were no CEMS Root Cause Failure Analysis and Corrective Actions Plans (RCA & CAP) completed during the reporting period for CEMS that are not in continuous operation for at least 95 percent of the total operating time of the process unit(s) being monitored for each of two consecutive calendar quarters.

Appendix B: LDAR Valve or Valve Packing Not Commercially Available Report

During this reporting period, there were no valves purchased for which a claim that a low leak valve or valve packing was not commercially available.

Appendix C: QQQ Compliance Schedule Beyond Two Years Report

Evaluations are complete and a plan to upgrade the QQQ components has been developed. If upgrades to the QQQ components extends beyond two years or if an update to the QQQ Audit Report is required to extend actions beyond two years, a progress report will be completed every two years as part of this semi-annual report in Appendix C.

Appendix D: Reports Submitted Only to Ohio in Compliance with this Consent Decree

The following table lists all reports that pertain to compliance with Consent Decree. Copies of any reports that were submitted only to Ohio and that pertain to compliance with this Consent Decree are listed in the following table and copies are attached.

Table D.1: Copies of Reports Submitted to Ohio EPA Only

Report Name	Submittal date
1 Quarter 2021 Title V Quarterly Deviation Report	4/30/2021
2 Quarter 2021 Title V Quarterly Deviation Report	7/30/2021
2021 Title V Annual Certification Report	4/29/2021

01-May-21

Des Gillen
President
BP-Husky Refining LLC
4001 Cedar Point Road
Oregon, OH 43616
P 567.698.4529
des.gillen@bp.com

City of Toledo
Division of Environmental Services
348 S. Erie Street
Toledo, OH 43604
Attn.: Peter Park

RE: Title V Quarterly Deviation Report – 1st Quarter 2021

Dear Peter:

Attached is the quarterly Title V deviation report for the BP-Husky Refinery. The Title V Permit (P0104782) requires reports to be submitted quarterly outlining known deviations of emission limitations, operational restrictions, or control device operating parameter limitations. The permit also requires semi-annual reports outlining deviations of requirements in the permit, principally the monitoring, recordkeeping, and reporting (MRR) requirements. The permittee chooses to report known MRR semi-annual deviations identified during the quarter in its quarterly deviation report so are included in the attached report.

In order to consolidate reports, this letter and its attachments also constitute the deviation reports for all the Permits to Install (PTIs) that have been incorporated into the Title V Permit and which have PTI requirements for deviation reporting. All known deviations of the Title V Permit and currently effective PTIs are presented in the attached quarterly deviation report. Also, the following provides some additional background on a few of the issues relevant to this report.

<u>10 Year Tank Inspections for Group 1 Subpart CC EFR Tanks</u>

In early 2021, BP-Husky completed an internal audit of its requirements that became applicable due to the revisions to 40 CFR 63 Subparts CC and UUU (Refinery MACT I and II) as part of EPA's Petroleum Refinery Sector Risk and Technology Review Rule (RSR). During this audit, it was discovered that fourteen (14) external floating roof (EFR) tanks subject to the 40 CFR 63 Subpart CC requirements for Group 1 storage tanks did not comply with all of the inspection requirements of 40 CFR 63 Subpart WW, which is referenced in 40 CFR 63.646 of Subpart CC. The regulatory citation for the missed inspection requirements is:

[40 CFR 63.1063(c)(2)(iii)] EFRs shall be inspected each time the storage vessel is completely emptied and degassed, or every 10 years, whichever occurs first, the EFR shall be inspected as specified in 63.1063(d)(1).

Specifically - 40 CFR 63.1063(d)(1)(iii) requires that the permittee inspect … *Floating roof deck, deck fittings, or rim seals that are not functioning as designed (as specified in paragraph (a) of this section*

The 14 Group 1 EFR tanks that did not comply with these requirements are included in Table 1 below. These deviations occurred because all the EFR tank requirements had not been incorporated into the refinery's compliance tasking system. BPH had been conducting and completing the required 5-year inspections for these EFR tanks. Inadvertently, BPH did not realize that the 10-year inspection requirements were different from the 5-year inspection requirements and that additional inspections of the tank deck fittings or rim seals were required. When the deficiency was discovered, BPH scheduled and completed all the required inspections by the end of the first quarter in 2021. No further deviations were found identified during the inspections. Table 1 below lists the affected tanks and the dates by which the inspections were required and when they were completed. Deviations from these requirements have not been previously reported in the quarterly Title V Deviation reports that were submitted for 2020. The Title V citations for these deviations are identified in the Part B deviations in Attachment B.

Table 1
Group 1 Subpart CC EFR Tanks Not Inspected within 10-years

OEPA ID	Tank #	Last Empty Tank Inspection	10 year inspection due	Date 10 year inspection Completed
T029	99	10/7/2004	10/7/2014	2/9/2021
T020	647	3/15/2005	3/15/2015	2/15/2021
T097	270	9/20/2007	9/20/2017	2/2/2021
T030	813	11/12/2007	11/12/2017	2/15/2021
T036	123	7/7/2008	7/7/2018	2/3/2021
T033	816	11/19/2008	11/19/2018	3/4/2021
T027	186	5/28/2009	5/28/2019	2/9/2021
T038	120	6/18/2009	6/18/2019	2/11/2021
T120	132	7/22/2009	7/22/2019	3/26/2021
T034	817	4/1/2010	4/1/2020	3/2/2021
T039	121	5/5/2010	5/5/2020	2/10/2021
T028	189	5/19/2010	5/19/2020	2/10/2021
T060	65	5/24/2010	5/24/2020	3/18/2021
T031	814	9/9/2010	9/9/2020	2/19/2021

B036 Reformer 3 Furnace CEMS Downtime >5%

On March 30, 2021 it was discovered that there was a torn diaphragm on the Reformer 3 sample pump. This small tear diluted the sample going to the O2 and NOx analyzers with ambient air. It was determined that the diaphragm had been leaking since March 24, 2021 and contributed to the REF3 CEMs being down greater than 5% of the quarter.

This report and cover letter were prepared in accordance with a system designed to assure that qualified personnel evaluated all reasonably available information relevant to compliance with the terms and conditions of the Title V Permit over the period covered by the report and that they then reported to me their conclusions with respect to compliance. Based on my inquiry of those persons, I believe the contents of the enclosed report and this cover letter to be true, accurate, and complete. However, the certification of this report and cover letter should not be interpreted to imply that I have personally reviewed all documents, data, or other information underlying the compliance determination. Nor should it be read to imply that the persons responsible for gathering and evaluating the information relied on in preparing this report and cover letter have reviewed all information generated by operations at the facility. As with any regulatory program, it is possible that there were deviations from permit conditions which may not be identified in the normal course of a good faith effort to implement the required compliance efforts under these programs.

In addition, the certification of this report and cover letter should not be construed as containing any admissions that the reported deviations or other events are violations of any applicable requirement. In some cases, applicable rules contain various defenses and/or exemptions which may excuse particular deviations. In other cases, the question of whether a particular event constituted a deviation or violation may be subject to interpretational disputes. In still other cases, events may be reported as deviations out of an abundance of caution despite the fact there is insufficient information to determine whether the deviation actually occurred.

If you have any questions concerning this report, please contact Ashley Zapp (ashley.zapp@bp.com or 567-698-4410).

Sincerely,

DocuSigned by:
Des Gillen
90F20640AD13450...

Des Gillen
President - BP-Husky Refining LLC

Attachment – 1Q2021 Title V Deviation Report

Ohio Environmental Protection Agency Deviation Reporting Form				
FACILITY NAME		BP-Husky Refining LLC		
FACILITY ID (PREMISE NUMBER)		04-48-02-0007		
FACILITY ADDRESS		4001 Cedar Point Road, Oregon, OH 43616		
Issuance or most recent modification date		P0104782 - Renewal effective 08/03/17 (issued 07/13/17)		
QUARTERLY Reporting Period		**SEMIANNUAL** Reporting Period (please indicate "N/A" below in the "From" and "To" fields if this report does not include semiannual deviation reporting)		
From: 01/01/2021	To: 03/31/2021	From: 01/01/2021	To: 03/31/2021	
Total pages in report, including this one (signature page and sections I, II, and III)		20		
Please list any supporting attachments		None		
Reporting deadline		04/30/2021		

NOTE: The deviation reporting period shall be stated in the following format: "xx/xx/xx through zz/zz/zz" where xx/xx/xx and zz/zz/zz are the beginning and end dates for the deviation reporting period respectively.

SIGNATURE FOR STATEMENT

This statement shall be signed by the responsible official as defined in OAC rule 3745-77-01(GG). Making of any false material statement, representation or certification constitutes a violation of ORC 3704.05(H), and subjects the responsible party signing this statement to civil and/or criminal penalties as provided in ORC 3704.06(C) and ORC 3704.

CERTIFICATION

Based on information and belief formed after reasonable inquiry, I hereby affirm, as stated in OAC rule 3745-77-03(D), that the statements and information as transmitted in this Title V report are true, accurate and complete to the best of my knowledge.

Authorized Signature DocuSigned by: Des Gillen 90F20640AD13450... Date April 30, 2021

Name (Please Print) Des Gillen Title President, BP-Husky Refining LLC

Ohio Environmental Protection Agency
Deviation Reporting

FACILITY NAME		BP-Husky Refining LLC	
FACILITY ID (PREMISE NUMBER)		04-48-02-0007	
FACILITY ADDRESS		4001 Cedar Point Road, Oregon, OH 43616	
Issuance or most recent modification date		P0104782 - Renewal effective 08/03/17 (issued 07/13/17)	
QUARTERLY Reporting Period		**SEMIANNUAL** Reporting Period (please indicate "N/A" below in the "From" and "To" fields if this report does not include semiannual deviation reporting)	
From: 01/01/2021	To: 03/31/2021	From: 01/01/2021	To: 03/31/2021
Reporting Deadline		04/30/2021	

(PART A) - General Terms and Conditions (Permit Requirement Reporting) (Table 1)

Mark the following box with an 'X' if no General Terms and Conditions deviations occurred

X	**THERE WERE NO DEVIATIONS OF ANY OF THE TERMS AND CONDITIONS OF PART A OF THE TITLE V PERMIT DURING THE REPORTING PERIOD**

Add rows as necessary to the following table for reported deviations (one for each General Term as applicable; see detailed instructions for more information) (Table 2)

TITLE V PERMIT TERM NO. Description	Reporting Requirement (Choose one)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION		
				DATE / TIME START	DATE / TIME END			

Ohio Environmental Protection Agency
Deviation Reporting

FACILITY NAME		BP-Husky Refining LLC	
FACILITY ID (PREMISE NUMBER)		04-48-02-0007	
FACILITY ADDRESS		4001 Cedar Point Road, Oregon, OH 43616	
Issuance or most recent modification date		P0104782 - Renewal effective 08/03/17 (issued 07/13/17)	
QUARTERLY Reporting Period		**SEMIANNUAL** Reporting Period (please indicate "N/A" below in the "From" and "To" fields if this report does not include semiannual deviation reporting)	
From: 01/01/2021	To: 03/31/2021	From: 01/01/2021	To: 03/31/2021
Reporting Deadline		04/30/2021	

(Part B) - Facility-wide Permit Requirement Reporting

Insignificant Emissions Unit Negative Declarations (Table 1)

List each insignificant emissions unit where no deviations of any PTI terms or applicable requirements for the listed emissions unit occurred, or add rows as necessary to the deviation reporting table (see next page) for reported deviations (one for each term as applicable; see detailed instructions for more information)

THERE WERE NO DEVIATIONS OF ANY PTI TERMS OR APPLICABLE REQUIREMENTS FOR THE FOLLOWING LISTED INSIGNIFICANT EMISSIONS UNITS IDENTIFIED IN (PART B.28) OF THE TITLE V PERMIT:
F002, G001, J008, J009, J011, L001, P030, P034, P038, P046, P047, P052, P061, P062, P064, P065, P066, P067, P068, P802, T042, T043, T048, T095, T112, T117, T121,
T141, T145, T148, T149, T151, T159, T163, T168, T169, T172, T173, T191, T196, T197, TMP 196253

List of all insignificant units for review and ease of putting into the above table

F002, G001, J008, J009, J011, L001, P030, P034, P038, P046, P047, P052, P061, P062, P064, P065, P066, P067, P068, P802, T042, T043, T048, T095, T112, T117, T121,
T141, T145, T148, T149, T151, T159, T163, T168, T169, T172, T173, T191, T196, T197, TMP 196253

Ohio Environmental Protection Agency
Deviation Reporting

FACILITY NAME		BP-Husky Refining LLC	
FACILITY ID (PREMISE NUMBER)		04-48-02-0007	
FACILITY ADDRESS		4001 Cedar Point Road, Oregon, OH 43616	
Issuance or most recent modification date		P0104782 - Renewal effective 08/03/17 (issued 07/13/17)	
QUARTERLY Reporting Period		**SEMIANNUAL** Reporting Period (please indicate "N/A" below in the "From" and "To" fields if this report does not include	
From: 01/01/2021	To: 03/31/2021	From: 01/01/2021	To: 03/31/2021
Reporting Deadline		04/30/2021	

Facility-wide Permit Requirements Terms and Conditions (Permit Requirement Reporting) - Negative Declarations (mark with an 'X' if applicable) **(Table 2)**

	THERE WERE NO DEVIATIONS OF ANY OF THE TERMS AND CONDITIONS OF PART B OF THE TITLE V PERMIT DURING THE REPORTING PERIOD SPECIFIED IN THIS REPORT

Part B - Facility-wide and/or IEU permit requirement (Permit Requirement Reporting) - Deviation Reporting (Table 3)

Add rows as necessary to the following table for reported deviations (one for each Term as applicable; see detailed instructions for more information)

TITLE V PERMIT or IEU PERMIT TERM NO./Description or PTI terms for IEUs	Quarterly	Semi-Annual	ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION: DEVIATION DURATION: DATE / TIME START	DEVIATION DURATION: DATE / TIME END	DESCRIPTION AND MAGNITUDE OF THE DEVIATION	PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION ? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT(S) DATE(S) (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT(S) DATE(S) (If no reports were made, state "NO REPORTS" in the space below)
Part B.7 - ...the permittee shall at all times comply with the effective rules and compliance dates as established by approved extensions, litigation, EPA clarifications, or rule changes as published even if the requirements reflected in the language of this permit are different. [Also reported in Part C - tbl 2]		X	Continuous Parameter Monitoring System (CPMSs)	1/31/2020	3/31/2021	BPH has identified monitoring Instrumentation in the hydrocarbon flare system that does not meet all of the requirement of 40 CFR 63.671 of Subpart CC.	The refinery sector rule updated 40 CFR 63 Subpart CC requirements in 2015 to include new flare instrumentation requirements. BPH immediately began implementing their plan to come in to compliance and as they have operated, additional flare instrumentation has been identified that does not meet the MACT CC - Table 13 requirements.	This deviation was first identified in 1Q2020 for two flare gas flow meters. A capital project is planned to update these flow meters and bring them into compliance. BPH is still finalizing the schedule for these repairs. After the flow meters were identified, BPH began an on-going investigation to identify all of the instrumentation deficiencies pursuant to MACT CC. Specifically, BPH is reviewing the pressure and temperature sensors on the flow meters to determine if there are additional upgrades to be made. This issue is ongoing and BPH will report the date of the final updates when it is available.	No	No Report	No Report

Part B - Facility-wide and/or IEU permit requirement (Permit Requirement Reporting) - Deviation Reporting (Table 3)

Add rows as necessary to the following table for reported deviations (one for each Term as applicable; see detailed instructions for more information)

TITLE V PERMIT or IEU PERMIT TERM NO./Description or PTI terms for IEUs	Quarterly	Semi-Annual	ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION ? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT(S) DATE(S) (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT(S) DATE(S) (If no reports were made, state "NO REPORTS" in the space below)
				DEVIATION DURATION							
				DATE / TIME START	DATE / TIME END	DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
Part B.4.a)(13)(e) 40 CFR 60.105(a)(4)(iii); and Part B.5.a)(6)f, [40 CFR 60.107a(a)(2)(ii) The permittee shall conduct performance evaluations for each H2S monitor according to the requirements of 40 CFR 60.13(c) and Performance Specification 7 of appendix B to part 60... **[40 CFR 60.13(c)]** ...Otherwise, the owner or operator of an affected facility shall conduct a performance evaluation of the ... continuous emission monitoring system (CEMS) during any performance test required under §60.8. **[40 CFR 60.18(d)]** The owner or operator of an affected facility shall provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present... *[Also reported in Part C - tbl 2]*		X	Reporting	2/8/2021	2/21/2021	The Intent to Test (ITT)for the RATAs performed on the H2S CMS on the East and West flare gas, the TIU Mix Drum, the East Side Mix Drum, and the Reformer 3 heater were not submitted to TDES a full 30 days prior to the test date.	The Relative Accuracy Test Audits (RATA) for the H_2S CEMS on the East and West flare gas, the TIU Mix Drum, the East Side Mix Drum and the Reformer 3 Heater were due to be completed by the end of the first quarter 2021 (i.e. March 31, 2021). BPH notified TDES informally of the plan to conduct the RATAs the week of March 23, 2021. However, before a formal intent to test was submitted, an unplanned outage of the neighboring Walleye Power Bayshore Plant required the dates of the RATAs to be moved up to the week of March 9, 2021 to accommodate the outage and complete them by their due date.	BPH emailed TDES on 2/18/2021 to notify them of the proposed change in dates. TDES responded that these RATAs could be conducted with less than 30 days notice, and that the ITT should be submitted ASAP. BPH submitted the formal ITT on 2/21/2021 and testing occurred the week of March 9th.	No	No Report	No Report
Part B.2.d)(4)a, d)(5)o. [NSPS Subpart VVa as referenced by Subpart GGGa [60.592a(a); and Part 63 Subpart CC: 63.648(a): 40 CFR 60.482-7a(a) through (h)] A valve that begins operation after the initial startup date for the process unit shall be monitored for the first time within 30 days after the end of its startup period, except for a valve that replaces a leaking valve and except as provided in 40 CFR 60.482-7a(f), (g), and (h), 60.482-1a(c), 60.483-1a, and 60.483-2a. **Part B.2.b)(2)b.i [40 CFR 63.648(a)** - In accordance with 40 CFR Part 63, Subpart CC, the permittee shall comply with the applicable provisions of 40 CFR Part 60, Subpart VV and 40 CFR 63.648(b) except as provided in (a)(1), and (c) through (i) of 40 CFR Part 63.648		X	LDAR Program	3/29/2021	3/31/2021	There were (23) untagged component identified in the Isocracker 2 (P041) unit that had not been monitored.	The Consent Decree requires quarterly review of the LDAR Contractor LeakDAS database. 23 components were discovered as part of a P&ID audit on the Isocracker 2 Unit on 03/29/2021.	The components were tagged and entered into LeakDAS database upon discover. They were then monitored on 4/1/2021.	No	No Report	No Report

Part B - Facility-wide and/or IEU permit requirement (Permit Requirement Reporting) - Deviation Reporting (Table 3)

Add rows as necessary to the following table for reported deviations (one for each Term as applicable; see detailed instructions for more information)

TITLE V PERMIT or IEU PERMIT TERM NO./Description or PTI terms for IEUs	Quarterly	Semi-Annual	ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION ? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT(S) DATE(S) (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT(S) DATE(S) (If no reports were made, state "NO REPORTS" in the space below)
				DEVIATION DURATION							
				DATE / TIME START	DATE / TIME END	DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
Part B, 2.d)(5)n. [NSPS Subpart VVa as referenced by Subpart GGGa and Part 63 Subpart CC: 40 CFR 60.482-6a]: "Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in 40 CFR 60.482-1a(c) and 40 CFR 60.482-6a(d) and (e).." **Part B.2.b)(2)b.i [40 CFR 63.648(a)]**: In accordance with 40 CFR Part 63, Subpart CC, the permittee shall comply with the applicable provisions of 40 CFR Part 60, Subpart VV and 40 CFR 63.648(b) except as provided in (a)(1), and (c) through (i) of 40 CFR Part 63.648 Also reported as Part C deviation.	X		LDAR Monitoring	2/18/2021	2/19/2021	There were two (2) open-ended lines (OELs) visually identified by operations in the high line section of the Reformer 3 unit	While addressing winter icing issues in the high line section of Reformer 3, operations identified 2 bleeds without plugs. It is assumed that these were left unplugged during a previous maintenance event in the Reformer 3. Since these are High lines, they were inadvertently missed.	Plugs added. As these were in the high line section, operations needed to gain access, thus the one day delay in getting plugs in the line.	No	No Report	No Report
Citation: B.5.a)(5)d) [40 CFR 60.107a(c). The permittee shall install, operate, and maintain equipment to continuously monitor and record NOx emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60	X		Continuous Emissions Monitoring System	3/24/2021 at 23:00 hours	3/30/2021 at 13:00 hours	The CEMs was down and not recording data for 43 Hours. The NOx CEMS was operational for less than 95% of the operation of the Reformer 3 heater.	CEMs unit had a diaphragm crack which was allowing air to leak into the system.	Diaphragm was replaced and analyzer was returned to normal operation	No	No Report	No Report

Other than the deviations listed above (or elsewhere in this report) there were no other deviations of Part II requirements of the Title V permit and other PTIs incorporated in the Title V permit.

Ohio Environmental Protection Agency
Deviation Reporting

FACILITY NAME		BP-Husky Refining LLC	
FACILITY ID (PREMISE NUMBER)		04-48-02-0007	
FACILITY ADDRESS		4001 Cedar Point Road, Oregon, OH 43616	
Issuance or most recent modification date		P0104782 - Renewal effective 08/03/17 (issued 07/13/17)	
QUARTERLY Reporting Period		**SEMIANNUAL** Reporting Period (please indicate "N/A" below in the "From" and "To" fields if this report does not include semiannual deviation reporting)	
From: 01/01/2021	To: 03/31/2021	From: 01/01/2021	To: 03/31/2021
Reporting Deadline		04/30/2021	

PART C - Emissions Unit Terms and Conditions (Permit Requirement Reporting) - Negative Declarations (Table 1)

List each emissions unit where no deviations of any terms for the listed emissions unit occurred, or add rows as necessary to the second table (see next page) for reported deviations (one for each term as applicable; see detailed instructions for more information)

THERE WERE NO DEVIATIONS OF ANY OF THE TERMS AND CONDITIONS OF PART III (Section C) OF THE TITLE V PERMIT FOR THE FOLLOWING LISTED EMISSIONS UNITS:

Emission Unit ID	Please place an 'X' below if there were no Quarterly Deviations - If an 'X' is not indicated, the deviation(s) must be identified in Table 2 below	If applicable, please place an 'X' below if there were no Semiannual Deviations - If an 'X' is not indicated, the deviation(s) must be identified in Table 2 below
0	X	X
B019	X	X
B029	X	X
B031	X	X
B032	X	X
B036	X	Part B-tbl 3; Part C-tbl 2 - CMS Monitoring Deviation
F001	X	X
F005	X	X
F006	X	X
J004	X	X
J005	X	X
P007	X	Part B-tbl 3 - Monitoring, Record keeping and Instrumentation Deviations
P009	X	X
P010	X	X
P011	X	X
P014	X	X
P017 (see Note 2 below)	(P017) Part C-tbl 2 - PSV leaking Deviation	X
P025 (see Note 2 below)	Part C-tbl 2 - NSPS QQQ Deviations	Part C-tbl 2 - NSPS QQQ Deviations
P036 (see Note 2 below)	X	X
P037	X	X
P048	X	X
P053	X	X
P054	X	X

THERE WERE NO DEVIATIONS OF ANY OF THE TERMS AND CONDITIONS OF PART III (Section C) OF THE TITLE V PERMIT FOR THE FOLLOWING LISTED EMISSIONS UNITS:		
Emission Unit ID	Please place an 'X' below if there were no Quarterly Deviations - If an 'X' is not indicated, the deviation(s) must be identified in Table 2 below	If applicable, please place an 'X' below if there were no Semiannual Deviations - If an 'X' is not indicated, the deviation(s) must be identified in Table 2 below
P803	Part C-tbl 2 - Chloride Deviation; OEL Deviation	X
T047	X	X
T073	X	X
T102	X	X
T120	X	Part C-tbl 2 Inspection Deviation
T139	X	X
T164 (see Note 2 below)	X	X
T170 (see Note 2 below)	X	X
T177	X	X
Group B1: B008, B009, B010	X	X
Group B2: B017, B022	X	X
Group B3: B030, B033	X	X
Group B4: B034, B035	X	X
Group P1: P021, P022, P023 (see Note 2 below)	(P022) Part C-tbl 2 - PSV leaking Deviation	X
Group P2: P028, P029 (see Note 2 below)	X	X
Group P3: P041, P043 (see Note 2 below)	(P041) Part C-tbl 2 - PSV leaking Deviation;	(P041) Part C-tbl2; Part B-tbl 3 - LDAR Monitoring Deviation
Group P4: P003, P004	Part C-tbl 2 - H2S Deviations	Part C-tbl 2 and Part B-tbl 3 - Monitoring, Record keeping and Instrumentation Deviations; ITT Reporting Deviation
Group P5: P055, P056, P057, P058	X	X
Group P6: P059, P060, P063	X	X
Group P7: P044, P045	X	X
Group T1: T078, T080, T081, T082, T086, T087, T088, T092, T100, T107, T108, T109, T110, T111, T175, T176, T182, T183, T184, T190	X	X
Group T2: T113, T114, T115, T116	X	X
Group T3: T089, T153, T154, T155, T156, T157, T161	X	X
Group T4: T010, T011, T012, T013, T014, T051	X	X
Group T5: T045, T046	X	X
Group T6: T019, T084, T174, T187, T188	X	X
Group T7: T016, T017, T019, T020, T021, T024, T025, T026, T027, T028, T029, T030, T031, T032, T033, T034, T035, T036, T037, T038, T039, T040, T041, T044, T059, T060, T085, T090, T091, T096, T097	X	(T020, T027, T028, T029, T030, T031, T033, T034, T036, T038, T039, T060, T097) Part C-tbl 2 Inspection Deviation
Group T8: T166, T167	X	X
Group T9: T136, T137, T138	X	X

Notes:
1 - This unit has a vent which is routed to a flare and could potentially experience a deviation.
2 - This unit has a vent which is routed to a flare that experienced a deviation. If the vent was active at that time, it may constitute a deviation for this emission unit.

Ohio Environmental Protection Agency

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P025 - Refinery WWT System	**Citation: P025 Part C.18.b)(1).** The refinery shall comply with the requirements of NSPS QQQ **- [40 CFR 60.692-3(e)] -** Slop oil from an oil-water separator tank and oily wastewater from slop oil handling equipment shall be collected, stored, transported, recycled, reused, or disposed of in an enclosed system... **Part C.18.c)(3)(c)-[§60.692-2(a)] -** Each drain shall be equipped with a water seal.	X		Program Audit	4/22/2020	3/31/2021	The oily wastewater from slop oil handling equipment, tanks 79 and 697 are not collected, stored, transported, recycled, reused, or disposed of in an enclosed individual drain system.	These drains were previously interpreted to be exempt because they were installed pre-1987. An NSPS QQQ audit was conducted in late 2019 per a recent Consent Decree at the BPH refinery. This audit found that these drains should be part of the "Slop oil management system" since they are used for dewatering the slop oil tanks, and therefore the drains should be controlled.	A compliance plan was developed for the findings from the QQQ Audit and was submitted to TDES on July 21, 2020. Per this plan, the audit finding for these drains was to be reviewed and verified prior to becoming a final deviation. The verification for these drains was completed on July 21, 2020, and the two drains are scheduled to be upgraded with water seals by December 31, 2021.	No	No Report	No Report
P025 - Refinery WWT System	**Citation: P025: Part C.18.b)(1), b)(2)j.i and ii: [40 CFR 60.690(a)(1)]** The provisions of Subpart QQQ apply to affected facilities located in petroleum refineries for which construction, modification, or reconstruction commenced after May 4, 1987. **Part C.18.c)(3)(c), d)(5)(c): [§60.692-2(a)] -**Each drain subject to 40 CFR 60.692-2 shall equipped with water seal controls. If a drain is in active service, water seal controls shall be checked by visual or physical inspection monthly.	X	X	Program Audit	4/22/2020	3/31/2021	One area drain and three hub drains in the NHT Feed and Desalter area were not controlled with water seals and have not been monitored pursuant to NSPS QQQ requirements.	An NSPS QQQ audit was conducted in late 2019 per a recent Consent Decree at the BPH refinery. This audit found that BPH inadvertently missed including one area drain and three hub drains in the NHT Feed and Desalter area in the refinery NSPS QQQ Management Program when junction boxes (manholes) were modified for TFO project.	A compliance plan was developed for the findings from the QQQ Audit and was submitted to TDES on July 21, 2020. Per this plan, the audit finding for these drains was to be reviewed and verified prior to becoming a final deviation. The verification for these drains was completed on September 30, 2020. The drains are scheduled to be upgraded with water seals by December 31, 2021.	No	No Report	No Report
P025 - Refinery WWT System	**Citation: P025: Part C.18.b)(1), b)(2)j.i and ii: [40 CFR 60.690(a)(1)]** The provisions of Subpart QQQ apply to affected facilities located in petroleum refineries for which construction, modification, or reconstruction commenced after May 4, 1987. **Part C.18.c)(3)(c), d)(5)(c): [§60.692-2(a)] -**Each drain subject to 40 CFR 60.692-2 shall equipped with water seal controls. If a drain is in active service, water seal controls shall be checked by visual or physical inspection monthly.	X	X	Program Audit	4/22/2020	3/31/2021	Two areas drains, twelve hub drains, and three catch basins in the Hydrogen Unit area were not controlled with water seals and have not been monitored pursuant to NSPS QQQ requirements.	An NSPS QQQ audit was conducted in late 2019 per a recent Consent Decree at the BPH refinery. This audit found that BPH inadvertently missed including two area drain, twelve hub drains, and three catch basins in the Hydrogen area in the refinery NSPS QQQ Management Program when junction boxes (manholes) were modified for the Flare Gas and Recovery Treating Project.	A compliance plan was developed for the findings from the QQQ Audit and was submitted to TDES on July 21, 2020. Per this plan, the audit finding for this equipment was to be reviewed and verified prior to becoming a final deviation. The verification for these drains was completed on December 31, 2020. The upgrades are scheduled to be completed by December 31, 2022.	No	No Report	No Report

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P025 - Refinery WWT System	**Citation: P025: Part C.18.b)(1), b)(2)j.i and ii: [40 CFR 60.690(a)(1)]** The provisions of Subpart QQQ apply to affected facilities located in petroleum refineries for which construction, modification, or reconstruction commenced after May 4, 1987. **Part C.18.c)(3)(c), d)(5)(c): [§60.692-2(a)] -**Each drain subject to 40 CFR 60.692-2 shall equipped with water seal controls. If a drain is in active service, water seal controls shall be checked by visual or physical inspection monthly.	X	X	Program Audit	4/22/2020	3/31/2021	Fourteen drain hubs, four clean-outs, ten catch basins, and five manholes that were part of the 1993 Benzene Stripper project were not designed to meet the requirements of NSPS QQQ - have not been monitored	An NSPS QQQ audit was conducted in late 2019 per a recent Consent Decree at the BPH refinery. This audit found that the 2015 Applicability Assessment report that had previously identified the 1993 Benzene Stripper project as not triggering the requirements of NSPS QQQ was incorrect. The 14 drain hubs, 4 clean-outs, 10 catch basins and 5 manholes installed as part of the Benzene Stripper project are subject to the requirements of NSPS QQQ.	A compliance plan was developed for the findings from the QQQ Audit and was submitted to TDES on July 21, 2020. Per this plan, the audit finding for this equipment was to be reviewed and verified prior to becoming a final deviation. The verification for these drains was completed on January 15, 2021. The upgrades are scheduled to be completed by December 31, 2022.	No	No Report	No Report
P003/ P004 - East and West Hydrocarbon Flare	**Citation: P003/P004: Part C.40.d)(4)m [40 CFR 60.107a(a)(2)(ii), 60.13(c), 60.8(d)]]NSPS Ja]** The permittee shall conduct performance evaluations for each H2S monitor according to the requirements of 40 CFR 60.13(c) and Performance Specification 7 of appendix B to part 60... **[40 CFR 60.13(c)]** ...Otherwise, the owner or operator of an affected facility shall conduct a performance evaluation of the ... continuous emission monitoring system (CEMS) during any performance test required under §60.8. **[40 CFR 60.18(d)]** The owner or operator of an affected facility shall provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present... **[Part C.40.f)(5)]** Personnel from the Ohio EPA Central Office and the appropriate Ohio EPA District Office or local air agency shall be notified 30 days prior to initiation of the applicable tests. [Also reported in Part B-tbl 3]		X	Reporting	2/8/2021	2/21/2021	The Intent to Test (ITT)for the RATA on the East and West flare gas H2S CMS were not submitted to TDES a full 30 days prior to the test date.	The Relative Accuracy Test Audits (RATA) for the H2S CEMS on the East and West flare gas were due to be completed by the end of the first quarter 2021 (i.e. March 31, 2021). BPH notified TDES informally of the plan to conduct the RATAs the week of March 23, 2021. However, before a formal intent to test was submitted, an unplanned outage of the neighboring Walleye Power Bayshore Plant required the dates of the RATAs to be moved up to the week of March 9, 2021 to accommodate the outage and complete them by their due date.	BPH emailed TDES on 2/18/2021 to notify them of the proposed change in dates. TDES responded that these RATAs could be conducted with less than 30 days notice, and that the ITT should be submitted ASAP. BPH submitted the formal ITT on 2/21/2021 and testing occurred the week of March 9th.	No	No Report	No Report

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P003/ P004 - East and West Hydrocarbon Flare	**Citation: P003/P004: Part C.40.d)(2)** The permittee shall comply with the applicable monitoring and record keeping requirements required in 40 CFR 63, Subpart CC: *[Note: there is not a specific Title V reference to the following requirement]* **[40 CFR 63 Subpart CC; 40 CFR 63.671(a)]** For each CPMS installed to comply with applicable provisions in §63.670, the owner or operator shall install, operate, calibrate, and maintain the CPMS as specified in paragraphs (a)(1) through (8) of this section. (1) Except for CPMS installed for pilot flame monitoring, all monitoring equipment must meet the applicable minimum accuracy, calibration and quality control requirements specified in table 13 of this subpart. [Also reported in Part B-tbl 3]		X	Continuous Parameter Monitoring System (CPMSs)	1/31/2020	3/31/2021	BPH has identified monitoring Instrumentation in the hydrocarbon flare system that does not meet all of the requirement of 40 CFR 63.671 of Subpart CC.	The refinery sector rule updated 40 CFR 63 Subpart CC requirements in 2015 to include new flare instrumentation requirements. BPH immediately began implementing their plan to come in to compliance and as they have operated, additional flare instrumentation has been identified that does not meet the MACT CC - Table 13 requirements.	This deviation was first identified in 1Q2020 for two flare gas flow meters. A capital project is planned to update these flow meters and bring them into compliance. BPH is still finalizing the schedule for these repairs. After the flow meters were identified, BPH began an on-going investigation to identify all of the instrumentation deficiencies pursuant to MACT CC. Specifically, BPH is reviewing the pressure and temperature sensors on the flow meters to determine if there are additional upgrades to be made. This issue is ongoing and BPH will report the date of the final updates when it is available.	No	No Report	No Report
P007 (FCCU / CO Boiler)	**Citation: P007, Part C.12. d)(17)(i) [§ 63.1572(c)(1)]** You must install, operate, and maintain each continuous parameter monitoring system according to the requirements in Table 41 of this subpart which include requirements regarding accuracy, calibrations and inspection/checks.		X	Continuous Parameter Monitoring System (CPMSs)	1/1/2019	12/31/2020	FCCU Instrumentation used to demonstrate compliance may not be in compliance with all the installation, operation and maintenance requirements of MACT UUU Table 41.	The Refinery Sector Rule (RSR) modifications to MACT UUU require additional accuracy and maintenance requirements of certain FCCU process instrumentation. BP discovered some instrumentation not originally included for MACT UUU compliance.	A Capital Project has been initiated to confirm all of the Table 41 requirements for two flow meters in FCCU used for compliance for MACT UUU. It is expected that any equipment identified that is out of compliance will be replaced during the scheduled for the 2022 FCC Unit Turnaround. In addition, BPH will review the requirements for the temperature and pressure sensor associated with the flow meters for compliance and brought into compliance if any deficiencies are discovered.	No	No Report	No Report

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P041 - Isocracker 2	**Citation P041; Part C.39.b)(1)a., d.,** [In accordance with 40 CFR 63.640(c)(4) and 63.648(a)(1), this emissions unit has equipment in organic HAP service and is subject to the Refinery MACT LDAR program.] **[40 CFR 63.648(j)(1)]** Operating requirements. Except during a pressure release, operate each pressure relief device in organic HAP gas or vapor service with an instrument reading of less than 500 ppm above background as detected by Method 21 of 40 CFR part 60, appendix A-7.	X		LDAR Monitoring	1/14/2021	1/19/2021	The PSV 01 pilot/ bellows was monitored with an instrument reading above 500 ppmv above background as detected by Method 21 of 40 CFR part 60	Operators in the Isocracker Unit smelled H_2S in the area and contacted the LDAR contractor in order to identify the source of the leak. Upon monitoring PSV 01, it was discovered to be leaking. Internal damage to the PSV is assumed to be the cause of the leak.	Operations replaced the PSV and it was monitored with an instrument reading less than 500 ppm above background as detected by Method 21 of 40 CFR part 60.	No	No Report	No Report
P022 - Alky 2 Unit	**Citation P022; Part C.37.b)(1)d.** [In accordance with 40 CFR 63.640(c)(4) and 63.648(a)(1), this emissions unit has equipment in organic HAP service and is subject to the Refinery MACT LDAR program.] **[40 CFR 63.648(j)(1)]** Operating requirements. Except during a pressure release, operate each pressure relief device in organic HAP gas or vapor service with an instrument reading of less than 500 ppm above background as detected by Method 21 of 40 CFR part 60, appendix A-7.	X		LDAR Monitoring	3/3/2021	3/17/2021	The PSV 411 Pilot/bellows was monitored with an instrument reading above 500 ppmv above background as detected by Method 21 of 40 CFR part 60	It is believed that the pilot sense line froze due to cold weather, which caused PSV 411 to lift. When the PSV was monitored after the lift and it was determined to be leaking. It is assumed that the cold weather damaged the PSV and caused the leak.	During the Alky2 Unit shutdown the pilot type PSV was replaced with a more reliable balanced bellows type PSV. Additionally, inlet and outlet block valves were added to PSV 411 to allow for the PSV to be replaced in the future without having to take the entire unit down. The pressure relief device was monitored with an instrument reading less than 500 ppm above background as detected by Method 21 of 40 CFR part 60.	No	No Report	No Report
P017 - Coker 2	**Citation P017; Part C.17.b)(1)f.** [In accordance with 40 CFR 63.640 this emissions unit includes equipment leaks from a petroleum refining process unit that is located at an existing major source of HAP subject to the emission limitations and control measures.] **[40 CFR 63.648(j)(1)]** Operating requirements. Except during a pressure release, operate each pressure relief device in organic HAP gas or vapor service with an instrument reading of less than 500 ppm above background as detected by Method 21 of 40 CFR part 60, appendix A-7.	X		LDAR Monitoring	3/20/2021	3/25/2021	PSV 1250 bellows was monitored with an instrument reading above 500 ppmv above background as detected by Method 21 of 40 CFR part 60	During the re-routing operation of off-gas from the EPA wash tower and amine system to the Old Coker Contractor PSV 1250 that protects the Coker Contractor lifted due to operational changes. When the PSV was monitored after the lift, it was discovered that it was leaking.	The PSV was removed from VOC service on 3/25/2021. Operations replaced PSV on 3/27/2021 and the pressure relief device was monitored with an instrument reading less than 500 ppm above background as detected by Method 21 of 40 CFR part 60.	No	No Report	No Report

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P003 (East Flare)	**Citation: P003, Part C.40.b)(2)d. [40 CFR 60.103a.(h)]** The permittee shall not burn in any affected flare any fuel gas that contains H_2S in excess of 162 ppmv determined hourly on a 3-hour rolling average basis. The combustion in a flare of process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions is exempt from this limit.	X		Continuous Monitoring System (CEMS)	01/30/2021 at 07:00 hrs	01/30/2021 at 18:00 hrs	The H_2S concentration in the flared gas exceeded 162 ppmv H_2S for (12) 3-hr rolling averages	The sense line on a pilot-type PSV located on top of the DIB tower in the Alky 2 Unit (P022) froze due to weather. This caused the PSV to lift and route high H_2S gas to the flare.	Operations applied temporary steam and insulation to the pilot line until the PSV reseated, which stopped the flow of high H_2S gas to the flare. The PSV was replaced during the Alky 2 Unit shutdown with a more reliable type of PSV to prevent this incident from occurring in the future.	No	No Report	No Report
P003 (East Flare); **P004** (West Flare)	**Citation: P003, P004 Part C.40.b)(2)d. [40 CFR 60.103a.(h)]** The permittee shall not burn in any affected flare any fuel gas that contains H_2S in excess of 162 ppmv determined hourly on a 3-hour rolling average basis. The combustion in a flare of process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions is exempt from this limit.	X		Continuous Monitoring System (CEMS)	03/09/2021 at 22:00 hrs	03/11/2021 at 19:00 hrs	The H_2S concentration in the flared gas exceeded 162 ppmv H_2S for (43) 3-hr rolling averages	The ISO2 High Pressure Separator level indicator had a false alarm which caused the recycle gas compressor to trip. The compressor trip caused the unit dump valve to open sending high H_2S material to flare gas recovery.	The flare gas recovery compressor was restarted as soon as safely possible. ISO2 reactor was purged with H_2 and N_2 as per shutdown procedures. Flaring stopped when the compressor was fully operational and all streams were being full recovered by the refinery's the flare gas recovery system.	No	No Report	No Report
Emissions Unit Group -T7 EFR: **T020, T027, T028, T029, T030, T031, T033, T034, T036, T038, T039, T060, T097**	**Citation: T7 EFR - Part C.50.b)(1)c. [40 CFR 63 Subpart CC (63.640(h) and [40 CFR 63.646 (ref) [40 CFR 63.660]** a Group 1 storage vessel located at a new or existing source as specified in §63.640(h), the Group 1 storage vessel shall comply with either the requirements in 40 CFR 63 Subpart WW or SS (BPH has selected Subpart WW for these tanks) **[40 CFR 63.1063(c)(2)(iii)]** EFRs shall be inspected each time the storage vessel is completely emptied and degassed, or every 10 years, whichever occurs first, the EFR shall be inspected as specified in 63.1063(d)(1). **Specifically - 40 CFR 63.1063(d)(1)(iii)** Floating roof deck, deck fittings, or rim seals that are not functioning as designed (as specified in paragraph (a) of this section		X	Compliance Tasking Database	See attached Table 1	See attached Table 1	Thirteen (13) of the Group 1 EFR tanks included in the Title V Group T7 their Floating roof deck, deck fittings, or rim seals were not inspected as specified in 40 CFR 63.1063(d)(1)(iii) - within 10 years as specified in paragraph 63.1063(a)	BPH conducted an internal audit was conducted on the new applicable requirements of 40 CFR 63 Subpart WW for Group 1 EFR. The findings from this audit were finalized in 1Q2021. It was discovered that while BPH was completing all of the 5-year inspection requirements, there was an additional 10-year inspection requirement for the floating roof deck, deck fittings or rim seals that had not been completed. This was a new requirement that was inadvertently missed.	All tanks identified had their inspections completed by the end of 1Q2021. BPH is updating their compliance tasking software with the requirements of 40 CFR 63 Subpart WW so that these inspections will not be missed in the future.	No	No Report	No Report

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T120 - EFR, PR-500132	**Citation T120 - Part C.28.b)(1)d. [40 CFR 63 Subpart CC (63.640(h) and [40 CFR 63.646 (ref) [40 CFR 63.660]** a Group 1 storage vessel located at a new or existing source as specified in §63.640(h), the Group 1 storage vessel shall comply with either the requirements in 40 CFR 63 Subpart WW or SS (BPH has selected Subpart WW for these tanks) **[40 CFR 63.1063(c)(2)(iii)]** EFRs shall be inspected each time the storage vessel is completely emptied and degassed, or every 10 years, whichever occurs first, the EFR shall be inspected as specified in 63.1063(d)(1). **Specifically - 40 CFR 63.1063(d)(1)(iii)** Floating roof deck, deck fittings, or rim seals that are not functioning as designed (as specified in paragraph (a) of this section		X	Compliance Tasking Database	7/22/2019	3/26/2021	This Group 1 EFR tank was not inspected as specified in 40 CFR 63.1063(d)(1)(iii) - the Floating roof deck, deck fittings, or rim seals were not inspected as specified in 40 CFR 63.1063(d)(1)(iii) - within 10 years as specified in paragraph 63.1063(a)	BPH conducted an internal audit was conducted on the new applicable requirements of 40 CFR 63 Subpart WW for Group 1 EFR. The findings from this audit were finalized in 1Q2021. It was discovered that while BPH was completing all of the 5-year inspection requirements, there was an additional 10-year inspection requirement for the floating roof deck, deck fittings or rim seals that had not been completed. This was a new requirement that was inadvertently missed.	The inspection was completed by the end of 1Q2021. BPH is updating their compliance tasking software with the requirements of 40 CFR 63 Subpart WW so that these inspections will not be missed in the future.	No	No Report	No Report
P041 - Isocracker 2	**Citation P041; Part C.39.b)(1)a., d.,** [In accordance with 40 CFR 63.640(c)(4) and 63.648(a)(1), this emissions unit has equipment in organic HAP service and is subject to the Refinery MACT LDAR program.]		X	LDAR Monitoring	3/29/2021	3/31/2021	There were (23) untagged component identified in the Isocracker 2 (P041) unit that had not been monitored.	The Consent Decree requires quarterly review of the LDAR Contractor LeakDAS database. 23 components were discovered as part of a P&ID audit on the Isocracker 2 Unit on 03/29/2021.	The components were tagged and entered into LeakDAS database upon discover. They were then monitored on 4/1/2021.	No	No Report	No Report
P803 (Ref 3 Unit)	**Citation P803; Part C.24.b)(1)g, b)(2)h, [40 CFR 63 Subpart CC; 40 CFR 60 Subpart GGGa]** In accordance with 40 CFR 63.640(c)(4) and 63.648(a)(1), this emissions unit has equipment in OHAP service subject to the Refinery MACT LDAR Program. [Per 40 CFR 63.640(p)(2), equipment leaks that are also subject to the provisions of 40 CFR Part 60, Subpart GGGa, are required to comply only with the provisions specified in 40 CFR Part 60, Subpart GGGa]	X		LDAR Monitoring	2/18/2021	2/19/2021	There were two (2) open-ended lines (OELs) visually identified by operations.	While addressing winter icing issues in the high line section of Reformer 3, operations identified 2 bleeds without plugs. Since these are High lines, they were inadvertently missed.	Plugs added. As these were in the high line section, operations needed to gain access, thus the one day delay in getting plugs in the line.	No	No Report	No Report

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B036 (Ref 3 Heater)	**Citation: B036 Part C.6.b)(1)g, f)(1)j [40 CFR 60 Subpart Ja]** Ongoing compliance shall be demonstrated based upon the NOx CEMS monitoring and record keeping requirements contained in the Monitoring and Record Keeping Section d) of this permit; term B.5 of Section B.,		X	Continuous Emissions Monitoring System	3/24/2021 at 23:00 hours	3/30/2021 at 13:00 hours	The CEMs was down and not recording data for 43 Hours. The NOx CEMS was operational for less than 95% of the operation of the Reformer 3 heater.	CEMs unit had a diaphragm crack which was allowing air to leak into the system.	Diaphragm was replaced and analyzer was returned to normal operation	No	No Report	No Report
P803 (Ref 3 Unit)	**Citation: P803 Part C.24 d)(1)(d)c [40 CFR 63.1567 Subpart UUU Table 28 option 5(c)]** Reformers using ChlorsorbTM System must collect samples of the sorbent exiting the adsorption system three times per week (on non-consecutive days); and recording the weekly average chloride concentration; and maintaining the chloride concentration below the design or manufacturer's recommended limit (1,8 weight percent ChlorsorbTM System).	X		Records review	3/7/2021	3/13/2021	The regenerator operated such that the weekly average outlet chloride concentration was greater than 1.8% weight of the ChlorsorbTM System recommended concentration.	There was a high concentration of chlorides on the Reformer 3 catalyst due to an over injection from the perc pumps. The high concentration caused the weekly average, which is made up of three non-consecutive samples, over 1.8% chloride in the catalyst leaving the Regenerator.	The Perc injection pump flowmeter was recalibrated to ensure proper addition.	No	No Report	No Report
P010 (Crude/Vac 2)	**Citation: PTI P0124661 P010 Part C.(1) e)(5)** Comply with Reporting requirements of 40 CFR Part 65, Subpart A **[40 CFR 65.5 (c) & (g)] -** (c) Initial Compliance Status Report—(1) Contents. The owner or operator shall submit an Initial Compliance Status Report . . . This information can be submitted as part of a title V permit application or amendment. (2) Due date. The owner or operator shall submit the Initial Compliance Status Report . . . within 60 days after the completion of the initial performance test or initial compliance determination. g) Report and notification submission—(1) Submission. All reports and notifications required under this part shall be sent to the Administrator at the appropriate EPA Regional Office and to the delegated State authority. [This requirement is not yet in the Title V, but is part of a new PTI. BPH has submitted a minor permit modification to in corporate this PTI into the Title V permit.]		X	Records Review	1/1/2021	3/31/2021	BPH did not submit to EPA within 60 days a copy of the the Initial Compliance Status Report required by 40 CFR 65.5 (Consulidated Air Rule) which is referenced by NSPS NNN for the Crude/Vac 2 unit after startup of a modification that triggered NSPS applicablity.	BPH's modification of the Crude/Vac 2 unit under PTI P0124661 triggered NSPS NNN applicability to the distillation system. BPH complies with NNN by the procedures in the Consolidated Air Rule (40 CFR Part 65) by routing the vent gas from the system to the refinery fuel gas system. No monitoring or testing is required. However, Part 65 requires submittal of an Initial Compliance Status report. BPH's submittal of an application to Ohio EPA on 6/26/20 to incorporate the PTI into the Title V permit satisfies the requirement to submit an Initial Compliance Status Report, however, a copy was inadvertently not set to EPA within 60 days of startup.	BPH has prepared an Initial Commpliance Status Report and submitted to EPA Region 5 on April 29. 2021.	No	No Report	No Report

30-Jul-2021

Des Gillen
President
BP-Husky Refining LLC
4001 Cedar Point Road
Oregon, OH 43616
P 567.698.4529
des.gillen@se1.bp.com

City of Toledo
Division of Environmental Services
348 S. Erie Street
Toledo, OH 43604
Attn.: Peter Park

RE: Title V Quarterly Deviation Report – 2nd Quarter 2021

Dear Peter:

The Title V Permit (P0104782) issued to BP-Husky Refining LLC Toledo Refinery (formerly the Toledo Refinery of BP Products North America Inc.) (hereinafter referred to as BP-Husky) effective on August 3, 2017 requires reports to be submitted quarterly outlining known deviations of emission limitations, operational restrictions, or control device operating parameter limitations. The permit also requires semi-annual reports outlining deviations of requirements in the permit, principally the monitoring, recordkeeping, and reporting (MRR) requirements. The permittee chooses to report known MRR semi-annual deviations identified during the quarter in its quarterly deviation report.

This letter and its attachments constitute the Title V Deviation Report reflecting the deviations identified during the third quarter of the 2020 calendar year (July 1 through September 30, 2020), including MRR deviations identified at the time of this report that are required to be reported semi-annually. The requirement for these reports is contained in Part A. of the Title V Permit as Standard Term and Condition, A.2.c. This report also satisfies the requirement for such reporting in OAC Rule 3745-77-07(A)(3)(c).

In order to consolidate reports, this letter and its attachments also constitute the deviation reports for all the Permits to Install (PTIs) that have been incorporated into the Title V Permit and which have PTI requirements for deviation reporting. All known deviations of the Title V Permit and currently effective PTIs are presented in the attached quarterly deviation report. Also, the following provides some additional background on a few of the issues relevant to this report.

<u>Coker 3 Furnace (B032) CEMS Downtime >5%</u>

During the 2nd quarter, the TIU Mix Drum Total Sulfur (TS) CEMS was down for 96 hours due to a drift test failing on the analyzer. The Coker 3 Furnace was offline during part of the quarter, which resulted in reduced operating time for the quarter. The 96 hours of TS CEMS downtime, along with the reduced operating time of the Coker 3 Furnace, resulted

in greater than 5% downtime for the Furnace. Note: The downtime for the TS CEMS at the TIU Mix Drum was less than 5%.

LDAR Tagging Audit

During the 1st Quarter of 2021, BPH undertook an effort to field verify 100% of LDAR components against site LDAR drawings. The decision to conduct the 100% Tagging Audit was voluntarily made following the discovery of 84 components in the 2020 Annual Unit Walkthrough Audits as required in the 2020 Consent Decree. As of June 30th, the refinery has completed 87% of the site components and is expected to complete the audit in August 2021.

B034 and B035 East and West Alstom Boiler Linearity test

During the 2nd quarter, the East and West Alstom Boiler linearity test was inadvertently missed in April, as required in 40 CFR 75. Upon discovery, the test was completed as soon as possible on both the East and West Alstom boilers. After completion of the initial linearity test, it was discovered that all 40 CFR 60 requirements were met; however, 40 CFR 75 requires that the boiler be operating during the completion of the linearity test. During the original test completed on May 13, 2021, the East Alstom boiler was offline. The boiler was brought online June 5, 2021; therefore, a new linearity test was completed on July 20, 2021.

This report and cover letter were prepared in accordance with a system designed to assure that qualified personnel evaluated all reasonably available information relevant to compliance with the terms and conditions of the Title V Permit over the period covered by the report and that they then reported to me their conclusions with respect to compliance. Based on my inquiry of those persons, I believe the contents of the enclosed report and this cover letter to be true, accurate, and complete. However, the certification of this report and cover letter should not be interpreted to imply that I have personally reviewed all documents, data, or other information underlying the compliance determination. Nor should it be read to imply that the persons responsible for gathering and evaluating the information relied on in preparing this report and cover letter have reviewed all information generated by operations at the facility. As with any regulatory program, it is possible that there were deviations from permit conditions which may not be identified in the normal course of a good faith effort to implement the required compliance efforts under these programs.

In addition, the certification of this report and cover letter should not be construed as containing any admissions that the reported deviations or other events are violations of any applicable requirement. In some cases, applicable rules contain various defenses and/or exemptions which may excuse particular deviations. In other cases, the question of whether a particular event constituted a deviation or violation may be subject to interpretational disputes. In still other cases, events may be reported as deviations out of an abundance of caution despite the fact there is insufficient information to determine whether the deviation actually occurred.

If you have any questions concerning this report, please contact Ashley Zapp (ashley.zapp@bp.com or 567-698-4410).

Sincerely,

DocuSigned by:
Des Gillen
90F20640AD13450...

Des Gillen
President - BP-Husky Refining LLC

Ohio Environmental Protection Agency Deviation Reporting Form				
FACILITY NAME		BP-Husky Refining LLC		
FACILITY ID (PREMISE NUMBER)		04-48-02-0007		
FACILITY ADDRESS		4001 Cedar Point Road, Oregon, OH 43616		
Issuance or most recent modification date		P0104782 - Renewal effective 08/03/17 (issued 07/13/17)		
QUARTERLY Reporting Period		**SEMIANNUAL** Reporting Period (please indicate "N/A" below in the "From" and "To" fields if this report does not include semiannual deviation reporting)		
From: 04/01/2021	To: 06/30/20201	From: 04/01/2021	To: 06/30/20201	
Total pages in report, including this one (signature page and sections I, II, and III)		18		
Please list any supporting attachments		None		
Reporting deadline		07/30/2021		

NOTE: The deviation reporting period shall be stated in the following format: "xx/xx/xx through zz/zz/zz" where xx/xx/xx and zz/zz/zz are the beginning and end dates for the deviation reporting period respectively.

SIGNATURE FOR STATEMENT

This statement shall be signed by the responsible official as defined in OAC rule 3745-77-01(GG). Making of any false material statement, representation or certification constitutes a violation of ORC 3704.05(H), and subjects the responsible party signing this statement to civil and/or criminal penalties as provided in ORC 3704.06(C) and ORC 3704.

CERTIFICATION

Based on information and belief formed after reasonable inquiry, I hereby affirm, as stated in OAC rule 3745-77-03(D), that the statements and information as transmitted in this Title V report are true, accurate and complete to the best of my knowledge.

Authorized Signature: DocuSigned by: Des Gillen 90F20640AD13450... Date: 30-Jul-2021

Name (Please Print): Des Gillen Title: President, BP-Husky Refining LLC

Ohio Environmental Protection Agency

Deviation Reporting

FACILITY NAME		BP-Husky Refining LLC	
FACILITY ID (PREMISE NUMBER)		04-48-02-0007	
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QUARTERLY Reporting Period		**SEMIANNUAL** Reporting Period (please indicate "N/A" below in the "From" and "To" fields if this report does not include semiannual deviation reporting)	
From: 04/01/2021	To: 06/30/20201	From: 04/01/2021	To: 06/30/20201
Reporting Deadline		07/30/2021	

(PART A) - General Terms and Conditions (Permit Requirement Reporting) (Table 1)

Mark the following box with an 'X' if no General Terms and Conditions deviations occurred

	THERE WERE NO DEVIATIONS OF ANY OF THE TERMS AND CONDITIONS OF PART A OF THE TITLE V PERMIT DURING THE REPORTING PERIOD

Add rows as necessary to the following table for reported deviations (one for each General Term as applicable; see detailed instructions for more information) (Table 2)

TITLE V PERMIT TERM NO. Description	Reporting Requirement (Choose one)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION		
				DATE / TIME START	DATE / TIME END			
Part A.19 Each Insignificant emission unit that is subject to one or more applicable requirements shall comply with those applicable requirements.	X		LDAR Program	4/1/2021	4/14/2021	There were a total of (3) untagged component identified in the DIB Tower (P065) that had not been monitored.	As part of the annual Process Unit LDAR walk-throughs required by the Consent Decree, there were components identified as part of an enhanced P&ID tagging audit in the DIB tower that were not in the LDAR database and therefore, were not tagged, and had not been monitored.	The components were tagged and entered into LeakDAS database upon discovery. The monitoring was completed on 4/14/2021.
				4/1/2021	6/14/2021	There were a total of (1) untagged component identified in the Coker Gas Plant (P068) that had not been monitored.	As part of the annual Process Unit LDAR walk-throughs required by the Consent Decree, there were components identified as part of an enhanced P&ID tagging audit in the in the Coker Gas Plant that were not in the LDAR database and therefore, were not tagged, and had not been monitored.	The components were tagged and entered into LeakDAS database upon discovery. The monitoring was completed on 6/14/2021.

Ohio Environmental Protection Agency
Deviation Reporting

FACILITY NAME		BP-Husky Refining LLC	
FACILITY ID (PREMISE NUMBER)		04-48-02-0007	
FACILITY ADDRESS		4001 Cedar Point Road, Oregon, OH 43616	
Issuance or most recent modification date		P0104782 - Renewal effective 08/03/17 (issued 07/13/17)	
QUARTERLY Reporting Period		**SEMIANNUAL** Reporting Period (please indicate "N/A" below in the "From" and "To" fields if this report does not include semiannual deviation reporting)	
From: 04/01/2021	To: 06/30/20201	From: 04/01/2021	To: 06/30/20201
Reporting Deadline		07/30/2021	

(Part B) - Facility-wide Permit Requirement Reporting

Insignificant Emissions Unit Negative Declarations (Table 1)

List each insignificant emissions unit where no deviations of any PTI terms or applicable requirements for the listed emissions unit occurred, or add rows as necessary to the deviation reporting table (see next page) for reported deviations (one for each term as applicable; see detailed instructions for more information)

THERE WERE NO DEVIATIONS OF ANY PTI TERMS OR APPLICABLE REQUIREMENTS FOR THE FOLLOWING LISTED INSIGNIFICANT EMISSIONS UNITS IDENTIFIED IN (PART B.28) OF THE TITLE V PERMIT:
F002, G001, J008, J009, J011, L001, P030, P034, P038, P046, P047, P052, P061, P062, P064, P066, P067, P802, T042, T043, T048, T095, T112, T117, T121,
T141, T145, T148, T149, T151, T159, T163, T168, T169, T172, T173, T191, T196, T197, TMP 196253

Ohio Environmental Protection Agency
Deviation Reporting

FACILITY NAME		BP-Husky Refining LLC	
FACILITY ID (PREMISE NUMBER)		04-48-02-0007	
FACILITY ADDRESS		4001 Cedar Point Road, Oregon, OH 43616	
Issuance or most recent modification date		P0104782 - Renewal effective 08/03/17 (issued 07/13/17)	
QUARTERLY Reporting Period		**SEMIANNUAL** Reporting Period (please indicate "N/A" below in the "From" and "To" fields if this report does not include	
From: 04/01/2021	To: 06/30/20201	From: 04/01/2021	To: 06/30/20201
Reporting Deadline		07/30/2021	

Facility-wide Permit Requirements Terms and Conditions (Permit Requirement Reporting) - Negative Declarations (mark with an 'X' if applicable) **(Table 2)**

	THERE WERE NO DEVIATIONS OF ANY OF THE TERMS AND CONDITIONS OF PART B OF THE TITLE V PERMIT DURING THE REPORTING PERIOD SPECIFIED IN THIS REPORT

Part B - Facility-wide and/or IEU permit requirement (Permit Requirement Reporting) - Deviation Reporting (Table 3)

Add rows as necessary to the following table for reported deviations (one for each Term as applicable; see detailed instructions for more information)

TITLE V PERMIT or IEU PERMIT TERM NO./Description or PTI terms for IEUs	Quarterly	Semi-Annual	ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION: DEVIATION DURATION: DATE / TIME START	DEVIATION DURATION: DATE / TIME END	DESCRIPTION AND MAGNITUDE OF THE DEVIATION	PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION ? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT(S) DATE(S) (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT(S) DATE(S) (If no reports were made, state "NO REPORTS" in the space below)
Part B.7 - ...the permittee shall at all times comply with the effective rules and compliance dates as established by approved extensions, litigation, EPA clarifications, or rule changes as published even if the requirements reflected in the language of this permit are different. [Also reported in Part C - tbl 2]	X	X	Various	Various	Various	The specific deviations to the requirements effective after Feb 1, 2017 that have deviations are listed in Part C - tbl 2 of this deviation report and have been marked "RSR Deviations" for clarification. The details of these deviations for 2Q2021 are included in that table and only generally referenced here so as to not have duplicative information. *(Revisions to 40 CFR 63 Subparts CC and UUU (Refinery MACT I and II) were promulgated on December 1, 2015 as part of EPA's Petroleum Refinery Sector Risk and Technology Review Rule (RSR) and further revisions and clarifications were promulgated on July 13, 2016. The BP-Husky Title V permit includes the Refinery Rule (RSR) MACT requirements that apply to the refinery and that are effective through February 1, 2017. However, the requirements of the RSR that have compliance dates after February 1, 2017 (and thus are not yet effective) are only generally referenced at the Subpart level in this section of the permit.)*			No	No Report	No Report
Part B.2.d)(4)a, d)(5)o. [NSPS Subpart VVa as referenced by Subpart GGGa [60.592a(a); and Part 63 Subpart CC: 63.648(a): 40 CFR 60.482-7a(a) through (h)] A valve that begins operation after the initial startup date for the process unit shall be monitored for the first time within 30 days after the end of its startup period, except for a valve that replaces a leaking valve and except as provided in 40 CFR 60.482-7a(f), (g), and (h), 60.482-1a(c), 60.483-1a, and 60.483-2a.		X	LDAR Program	Various	Various	As part of the annual Process Unit LDAR walk-throughs required by the Consent Decree, there were components discovered as part of an enhanced P&ID tagging audit in the DIB Tower (P065), Reformer 3 (P803), BGOT (P029), ISO2 (P041), Sat Gas Unit (P059), Alky 1 (P021), Cat Poly (P043), Crude/Vac 1 (P011), Coker Gas Plant (P068), and the FCCU (P007) that were not in the LDAR database, and therefore, were not tagged and had not been monitored. The specific number of components identified and dates monitoring were completed are included in Part A and Part C - tbl 2 of this deviation report. They are not repeated here.	The components were tagged and entered into LeakDAS database upon discovery. They were then monitored in the 2nd quarter of 2021.	No	No Report	No Report

Part B - Facility-wide and/or IEU permit requirement (Permit Requirement Reporting) - Deviation Reporting (Table 3)

Add rows as necessary to the following table for reported deviations (one for each Term as applicable; see detailed instructions for more information)

TITLE V PERMIT or IEU PERMIT TERM NO./Description or PTI terms for IEUs	Quarterly	Semi-Annual	ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION ? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT(S) DATE(S) (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT(S) DATE(S) (If no reports were made, state "NO REPORTS" in the space below)
				DEVIATION DURATION							
				DATE / TIME START	DATE / TIME END	DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
Part B.2.d)(4)a, d)(5)o. [NSPS Subpart VVa as referenced by Subpart GGGa [60.592a(a); and Part 63 Subpart CC: 63.648(a): 40 CFR 60.482-7a(a) through (h)] A valve that begins operation after the initial startup date for the process unit shall be monitored for the first time within 30 days after the end of its startup period, except for a valve that replaces a leaking valve and except as provided in 40 CFR 60.482-7a(f), (g), and (h), 60.482-1a(c), 60.483-1a, and 60.483-2a.		X	LDAR Program	4/1/2021	5/7/2021	There were a total of (14) untagged component identified in the East Flare Gas Recovery System (AKA Hydrogen Unit) that had not been monitored.	As part of the annual Process Unit LDAR walk-throughs required by the Consent Decree, there were components identified as part of an enhanced P&ID tagging audit in the in the process area known as "Hydrogen Unit" that were not in the LDAR database and therefore, were not tagged, and had not been monitored	The components were tagged and entered into LeakDAS database upon discovery. The monitoring was completed on 5/7/2021.	No	No Report	No Report
Part B, 2.d)(5)n. [NSPS Subpart VVa as referenced by Subpart GGGa and Part 63 Subpart CC: 40 CFR 60.482-6a]: "Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in 40 CFR 60.482-1a(c) and 40 CFR 60.482-6a(d) and (e).."		X	LDAR Program	5/21/2021	5/21/2021	There were two (2) open-ended lines (OELs) visually identified by operations on pump PR#606481; the pump vent and drain had a single isolation valve with open piping/tubing routed to sewer.	Pump vents and drains were designed and installed prior to the current rules being in place. Since this line is a heavy liquid line, it is not frequently monitored by LDAR technicians.	Piping/tubing removed and plugs installed.	No	No Report	No Report
Part B, 3.a) (1) No later than the start-up of the Coker Gas Plant (P068), the permittee shall install, calibrate, operate, and maintain instrumentation to monitor and record the concentration by volume (dry basis) of total sulfur (expressed as SO2) in the refinery fuel gas burned in each of the heaters and boilers listed in this permit (except for heaters firing fuel gas from the East Side Mix Drum).		X	Continuous Monitoring System	4/1/2021	6/30/2021	The TIU Mix Drum total sulfur continuous monitoring system was down and not recording data for 96 hours. This was less than 95% of the operation for the Coker 3 furnace.	The Coker 3 furnace experienced a scheduled outage at the beginning of the quarter, therefore, its total operational time for the quarter was only 1645 hours. The total sulfur analyzer on the TIU Mix Drum experienced approximately 96 hours of downtime during the quarter due to the analyzer failing to complete the required drift tests. Due to the reduced operation of the Coker 3 furnace, the total sulfur of the fuel gas being burned at the Coker 3 furnace was not monitored for more than 5% of the operational time of the Coker 3 furnace.	The TIU Mix Drum total sulfur analyzer drift test was completed and returned to service on 5/11/2021. The Coker 3 furnace returned to normal operation on 4/20/2021.	No	No Report	No Report

Other than the deviations listed above (or elsewhere in this report) there were no other deviations of Part II requirements of the Title V permit and other PTIs incorporated in the Title V permit.

Ohio Environmental Protection Agency
Deviation Reporting

FACILITY NAME		BP-Husky Refining LLC	
FACILITY ID (PREMISE NUMBER)		04-48-02-0007	
FACILITY ADDRESS		4001 Cedar Point Road, Oregon, OH 43616	
Issuance or most recent modification date		P0104782 - Renewal effective 08/03/17 (issued 07/13/17)	
QUARTERLY Reporting Period		**SEMIANNUAL** Reporting Period (please indicate "N/A" below in the "From" and "To" fields if this report does not include semiannual deviation reporting)	
From: 04/01/2021	To: 06/30/20201	From: 04/01/2021	To: 06/30/20201
Reporting Deadline		07/30/2021	

PART C - Emissions Unit Terms and Conditions (Permit Requirement Reporting) - Negative Declarations (Table 1)

List each emissions unit where no deviations of any terms for the listed emissions unit occurred, or add rows as necessary to the second table (see next page) for reported deviations (one for each term as applicable; see detailed instructions for more information)

THERE WERE NO DEVIATIONS OF ANY OF THE TERMS AND CONDITIONS OF PART III (Section C) OF THE TITLE V PERMIT FOR THE FOLLOWING LISTED EMISSIONS UNITS:

Emission Unit ID	Please place an 'X' below if there were no Quarterly Deviations - If an 'X' is not indicated, the deviation(s) must be identified in Table 2 below	If applicable, please place an 'X' below if there were no Semiannual Deviations - If an 'X' is not indicated, the deviation(s) must be identified in Table 2 below
B015	Part C-tbl 2 - H2S Deviations	X
B019	Part C-tbl 2 - H2S Deviations	X
B029	Part C-tbl 2 - H2S Deviations	X
B031	Part C-tbl 2 - H2S Deviations	X
B032	Part C-tbl 2 - H2S Deviations	Part B-tbl 3 - Total sulfur monitoring downtime deviation
B036	X	X
F001	X	X
F005	X	X
F006	X	X
J004	X	X
J005	X	X
P007	Part C-tbl 2 - H2S Deviation; Ammonia Deviation	Part C-tbl 2 & Part B-tbl 3- Monitoring Instrumentation compliance deviation, Part C-tbl 2 and Part B-tbl 3 LDAR monitoring deviation
P009	X	X
P010	X	X
P011	X	Part C-tbl 2 & Part B-tbl 3 - LDAR monitoring deviation
P014	X	X
P017 (see Note 2 below)	X	X
P025 (see Note 2 below)	Part C-tbl 2 - NSPS QQQ Deviations	Part C-tbl 2 - NSPS QQQ Deviations
P036 (see Note 2 below)	X	X
P037	X	X
P048	X	X
P053	X	X
P054	X	X

THERE WERE NO DEVIATIONS OF ANY OF THE TERMS AND CONDITIONS OF PART III (Section C) OF THE TITLE V PERMIT FOR THE FOLLOWING LISTED EMISSIONS UNITS:		
Emission Unit ID	Please place an 'X' below if there were no Quarterly Deviations - If an 'X' is not indicated, the deviation(s) must be identified in Table 2 below	If applicable, please place an 'X' below if there were no Semiannual Deviations - If an 'X' is not indicated, the deviation(s) must be identified in Table 2 below
P803	X	Part C-tbl 2 & Part B-tbl 3 - LDAR monitoring deviation
T047	X	X
T073	X	X
T102	X	X
T120	X	X
T139	X	X
T164 (see Note 2 below)	X	X
T170 (see Note 2 below)	X	X
T177	X	X
Group B1: B008, B009, B010	X	X
Group B2: B017, B022	Part C-tbl 2 - H2S Deviations	X
Group B3: B030, B033	Part C-tbl 2 - H2S Deviations	X
Group B4: B034, B035	Part C-tbl 2 - H2S Deviations (B035 only)	Part C-tbl 2 - NOX CEMS Linearity Check deviation
Group P1: P021, P022, P023 (see Note 2 below)	X	Part C-tbl 2 & Part B-tbl 3 - LDAR monitoring deviation (P021 only)
Group P2: P028, P029 (see Note 2 below)	X	Part C-tbl 2 & Part B-tbl 3 - LDAR monitoring deviation (P029 only)
Group P3: P041, P043 (see Note 2 below)	Part C-tbl 2 - OEL deviation (P041 only)	Part C-tbl 2 & Part B-tbl 3 - LDAR monitoring deviation
Group P4: P003, P004	Part C-tbl 2 - Loss of pilot Deviation (P004 only), Part C-tbl 2 and Part B-tbl 3 Net Heating Value Deviations	Part C-tbl 2 & Part B-tbl 3 - Continuous monitoring deviation (P003 only); Part C-tbl 2 & Part B-tbl 3 Monitoring Instrumentation compliance deviation and Record keeping deviation
Group P5: P055, P056, P057, P058	X	X
Group P6: P059, P060, P063	X	Part C-tbl 2 & Part B-tbl 3 - LDAR monitoring deviation (P059 only)
Group P7: P044, P045	X	X
Group T1: T078, T080, T081, T082, T086, T087, T088, T092, T100, T107, T108, T109, T110, T111, T175, T176, T182, T183, T184, T190	X	X
Group T2: T113, T114, T115, T116	X	X
Group T3: T089, T153, T154, T155, T156, T157, T161	X	X
Group T4: T010, T011, T012, T013, T014, T051	X	X
Group T5: T045, T046	X	X
Group T6: T019, T084, T174, T187, T188	X	X
Group T7: T016, T017, T019, T020, T021, T024, T025, T026, T027, T028, T029, T030, T031, T032, T033, T034, T035, T036, T037, T038, T039, T040, T041, T044, T059, T060, T085, T090, T091, T096, T097	X	X
Group T8: T166, T167	X	X

THERE WERE NO DEVIATIONS OF ANY OF THE TERMS AND CONDITIONS OF PART III (Section C) OF THE TITLE V PERMIT FOR THE FOLLOWING LISTED EMISSIONS UNITS:		
Emission Unit ID	Please place an 'X' below if there were no Quarterly Deviations - If an 'X' is not indicated, the deviation(s) must be identified in Table 2 below	If applicable, please place an 'X' below if there were no Semiannual Deviations - If an 'X' is not indicated, the deviation(s) must be identified in Table 2 below
Group T9: T136, T137, T138	X	X

Notes:

1 - This unit has a vent which is routed to a flare and could potentially experience a deviation.

2 - This unit has a vent which is routed to a flare that experienced a deviation. If the vent was active at that time, it may constitute a deviation for this emission unit.

Ohio Environmental Protection Agency
Deviation Reporting

FACILITY NAME		BP-Husky Refining LLC	
FACILITY ID (PREMISE NUMBER)		04-48-02-0007	
FACILITY ADDRESS		4001 Cedar Point Road, Oregon, OH 43616	
Issuance or most recent modification date		P0104782 - Renewal effective 08/03/17 (issued 07/13/17)	
QUARTERLY Reporting Period		**SEMIANNUAL** Reporting Period (please indicate "N/A" below in the "From" and "To" fields if this report does not include semiannual deviation reporting)	
From: 04/01/2021	To: 06/30/20201	From: 04/01/2021	To: 06/30/20201
Reporting Deadline		07/30/2021	

(PART C) Emissions Unit Terms and Conditions (Permit Requirement Reporting) - Deviation Reporting (Table 2)

THERE WERE NO DEVIATIONS OF ANY OF THE TERMS AND CONDITIONS OF Section C OF THE TITLE V PERMIT DURING THE REPORTING PERIOD SPECIFIED IN THIS REPORT

Add rows as necessary to the following table for reported deviations (one for each Term as applicable; see detailed instructions for more information)

EMISSIONS UNIT (EU) NUMBER & DESCRIPTION (See below)	TITLE V PERMIT TERM NO & DESCRIPTION	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
		Quarterly	Semi-Annual		DEVIATION DURATION Date / Time Start	DEVIATION DURATION Date / Time End	DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
P025 - Refinery WWT System	**Citation: P025 Part C.18.b)(1).** The refinery shall comply with the requirements of NSPS QQQ **- [40 CFR 60.692-3(e)] -** Slop oil from an oil-water separator tank and oily wastewater from slop oil handling equipment shall be collected, stored, transported, recycled, reused, or disposed of in an enclosed system... **Part C.18.c)(3)(c)-[§60.692-2(a)] -** Each drain shall be equipped with a water seal.	X		Program Audit	4/22/2020	6/30/2021	The oily wastewater from slop oil handling equipment, tanks 79 and 697 are not collected, stored, transported, recycled, reused, or disposed of in an enclosed individual drain system. (previously reported)	These drains were previously interpreted to be exempt because they were installed pre-1987. An NSPS QQQ audit was conducted in late 2019 per the Consent Decree at the BPH refinery. This audit found that these drains should be part of the "Slop oil management system" since they are used for dewatering the slop oil tanks, and therefore the drains should be controlled.	A compliance plan was developed for the findings from the QQQ Audit and was submitted to TDES on July 21, 2020. Per this plan, the audit finding for these drains was to be reviewed and verified prior to becoming a final deviation. The verification for these drains was completed on July 21, 2020, and the two drains are scheduled to be upgraded with water seals by December 31, 2021.	No	No Report	No Report
P025 - Refinery WWT System	**Citation: P025: Part C.18.b)(1), b)(2)j.i and ii: [40 CFR 60.690(a)(1)]** The provisions of Subpart QQQ apply to affected facilities located in petroleum refineries for which construction, modification, or reconstruction commenced after May 4, 1987. **Part C.18.c)(3)(c), d)(5)(c): [§60.692-2(a)] -**Each drain subject to 40 CFR 60.692-2 shall equipped with water seal controls. If a drain is in active service, water seal controls shall be checked by visual or physical inspection monthly.	X	X	Program Audit	4/22/2020	6/30/2021	One area drain and three hub drains in the NHT Feed and Desalter area were not controlled with water seals and have not been monitored pursuant to NSPS QQQ requirements. (previously reported)	An NSPS QQQ audit was conducted in late 2019 per the Consent Decree at the BPH refinery. This audit found that BPH inadvertently missed including one area drain and three hub drains in the NHT Feed and Desalter area in the refinery NSPS QQQ Management Program when junction boxes (manholes) were modified for TFO project.	A compliance plan was developed for the findings from the QQQ Audit and was submitted to TDES on July 21, 2020. Per this plan, the audit finding for these drains was to be reviewed and verified prior to becoming a final deviation. The verification for these drains was completed on September 30, 2020. The drains are scheduled to be upgraded with water seals by December 31, 2021.	No	No Report	No Report
P025 - Refinery WWT System	**Citation: P025: Part C.18.b)(1), b)(2)j.i and ii: [40 CFR 60.690(a)(1)]** The provisions of Subpart QQQ apply to affected facilities located in petroleum refineries for which construction, modification, or reconstruction commenced after May 4, 1987. **Part C.18.c)(3)(c), d)(5)(c): [§60.692-2(a)] -**Each drain subject to 40 CFR 60.692-2 shall equipped with water seal controls. If a drain is in active service, water seal controls shall be checked by visual or physical inspection monthly.	X	X	Program Audit	4/22/2020	6/30/2021	Two areas drains, twelve hub drains, and three catch basins in the Hydrogen Unit area were not controlled with water seals and have not been monitored pursuant to NSPS QQQ requirements. (previously reported)	An NSPS QQQ audit was conducted in late 2019 per the Consent Decree at the BPH refinery. This audit found that BPH inadvertently missed including two area drain, twelve hub drains, and three catch basins in the Hydrogen area in the refinery NSPS QQQ Management Program when junction boxes (manholes) were modified for the Flare Gas and Recovery Treating Project.	A compliance plan was developed for the findings from the QQQ Audit and was submitted to TDES on July 21, 2020. Per this plan, the audit finding for this equipment was to be reviewed and verified prior to becoming a final deviation. The verification for these drains was completed on December 31, 2020. The upgrades are scheduled to be completed by December 31, 2022.	No	No Report	No Report

(PART C) Emissions Unit Terms and Conditions (Permit Requirement Reporting) - Deviation Reporting (Table 2)

THERE WERE NO DEVIATIONS OF ANY OF THE TERMS AND CONDITIONS OF Section C OF THE TITLE V PERMIT DURING THE REPORTING PERIOD SPECIFIED IN THIS REPORT

Add rows as necessary to the following table for reported deviations (one for each Term as applicable; see detailed instructions for more information)

EMISSIONS UNIT (EU) NUMBER & DESCRIPTION (See below)	TITLE V PERMIT TERM NO & DESCRIPTION	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
		Quarterly	Semi-Annual		DEVIATION DURATION Date / Time Start	DEVIATION DURATION Date / Time End	DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
P025 - Refinery WWT System	**Citation: P025: Part C.18.b)(1), b)(2)j.i and ii: [40 CFR 60.690(a)(1)]** The provisions of Subpart QQQ apply to affected facilities located in petroleum refineries for which construction, modification, or reconstruction commenced after May 4, 1987. **Part C.18.c)(3)(c), d)(5)(c): [§60.692-2(a)] -**Each drain subject to 40 CFR 60.692-2 shall equipped with water seal controls. If a drain is in active service, water seal controls shall be checked by visual or physical inspection monthly.	X	X	Program Audit	4/22/2020	6/30/2021	Fourteen drain hubs, four clean-outs, ten catch basins, and five manholes that were part of the 1993 Benzene Stripper project were not designed to meet the requirements of NSPS QQQ - have not been monitored. (previously reported)	An NSPS QQQ audit was conducted in late 2019 per the Consent Decree at the BPH refinery. This audit found that the 2015 Applicability Assessment report that had previously identified the 1993 Benzene Stripper project as not triggering the requirements of NSPS QQQ was incorrect. The 14 drain hubs, 4 clean-outs, 10 catch basins and 5 manholes installed as part of the Benzene Stripper project are subject to the requirements of NSPS QQQ.	A compliance plan was developed for the findings from the QQQ Audit and was submitted to TDES on July 21, 2020. Per this plan, the audit finding for this equipment was to be reviewed and verified prior to becoming a final deviation. The verification for these drains was completed on January 15, 2021. The upgrades are scheduled to be completed by December 31, 2022.	No	No Report	No Report
P025 - Refinery WWT System	**Citation: P025: Part C.18.c)(3)h. [40 CFR 60.692-3(a)]** Each oil-water separator tank, slop oil tank, storage vessel, or other auxiliary equipment subject to the requirements of 40 CFR 60 Subpart QQQ shall be equipped and operated with a fixed roof, which meets the following specifications, except as provided in 40 CFR 60.692-3(d) or in 40 CFR 60.693-2.	X		Visual Inspections	5/26/2021	6/30/2021	There were four (4) slop oil view ports located on the primary channel QQQ panels of the WWTU are not sealed to prevent emissions to atmosphere.	Internal BPH audit identified that skim oil inspection port lids located on the primary channel were not designed with adequate seals when the panels were installed in order to comply with NSPS QQQ requirements.	Engineering package being created to design and install seals on view port panels. This issue is ongoing and BPH will report the date of final repairs when available.	No	No Report	No Report
P003/ P004 - East and West Hydrocarbon Flare	**Citation: P003/P004: Part C.40.d)(2)** The permittee shall comply with the applicable monitoring and record keeping requirements required in 40 CFR 63, Subpart CC: *[Note: there is not a specific Title V reference to the following requirement]* **[40 CFR 63 Subpart CC; 40 CFR 63.671(a)]** For each CPMS installed to comply with applicable provisions in §63.670, the owner or operator shall install, operate, calibrate, and maintain the CPMS as specified in paragraphs (a)(1) through (8) of this section. (1) Except for CPMS installed for pilot flame monitoring, all monitoring equipment must meet the applicable minimum accuracy, calibration and quality control requirements specified in table 13 of this subpart. *[Also reported in Part B-tbl 3 - RSR Deviation]*		X	Continuous Parameter Monitoring System (CPMSs)	1/31/2020	6/30/2021	BPH has identified monitoring Instrumentation in the hydrocarbon flare system that does not meet all of the requirement of 40 CFR 63.671 of Subpart CC. (previously reported)	The refinery sector rule updated 40 CFR 63 Subpart CC requirements in 2015 to include new flare instrumentation requirements. BPH immediately began implementing their plan to come in to compliance and as they have operated, additional flare instrumentation has been identified that does not meet the MACT CC - Table 13 requirements.	This deviation was first identified in 1Q2020 for two flare gas flow meters. A capital project is planned to update these flow meters and bring them into compliance. BPH is still finalizing the schedule for these repairs. After the flow meters were identified, BPH began an on-going investigation to identify all of the instrumentation deficiencies pursuant to MACT CC. Specifically, BPH is reviewing the pressure and temperature sensors on the flow meters to determine if there are additional upgrades to be made. This issue is ongoing and BPH will report the date of the final updates when it is available.	No	No Report	No Report

(PART C) Emissions Unit Terms and Conditions (Permit Requirement Reporting) - Deviation Reporting (Table 2)

THERE WERE NO DEVIATIONS OF ANY OF THE TERMS AND CONDITIONS OF Section C OF THE TITLE V PERMIT DURING THE REPORTING PERIOD SPECIFIED IN THIS REPORT

Add rows as necessary to the following table for reported deviations (one for each Term as applicable; see detailed instructions for more information)

EMISSIONS UNIT (EU) NUMBER & DESCRIPTION (See below)	TITLE V PERMIT TERM NO & DESCRIPTION	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
		Quarterly	Semi-Annual		DEVIATION DURATION Date / Time Start	DEVIATION DURATION Date / Time End	DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
B015 - Crude 1 Furnace; **B017 -** Coker 2 Furnace; **B019 -** Crude Vac 2 Furnace; **B022 -** Naphtha Treater Furnace; **B030 -** DHT-B Train Furnace; **B031 -** Vac 1 Furnace; **B032 -** Coker 3 Furnace; **B033 -** East BGOT Furnace; **B035 -** West Alstom Boiler **B029 -** DHT A-Train Furnace; **P007 -** CO Boiler	**Citations: B015**: Part C.1.b) (2)a., b)(2)b., c)(2), f)(1)a.; **B019**: Part C.2.b)(2)b., b)(2)e., c)(2), f)(1)c.; **B031**: Part C.4.b) (2)d., c)(2), f)(1)f.; **B032**: Part C.5.b)(2)d., c)(2), f)(1)j.; **B017 and B022:** Part C.34.b) (2)b, b)(2)e, f)(1)a; **B030 and B033**: Part C.35.b)(2)e., b(2)a. and f)(1)l.; **B029**: Part C.3.b) (2)e, f)(1)j.; **B035**: Part C.36.b)(2)c., f)(1)a; **P007:** Part C.12.b)(1)q, b)(2)e, b(2)f and f)(1)c; **40 CFR 60.104(a)(1)** Refinery heaters/ boilers shall not burn any refinery fuel gas that has a volume-weighted, rolling, 3-hour average H_2S concentration greater than 230 milligrams per dry standard cubic meter (0.10 grain per dry standard cubic foot).(NSPS Subpart J, 160 ppmv H_2S).	X		Continuous Monitoring System (CEMS)	5/4/21 at 11:00 hours	5/4/21 at 14:00 hours	H_2S emissions exceeded 162 ppmv on a 3-hour rolling average basis for a total of four (4) 3-hour average exceedances from the TIU Mix Drum.	An upset in the coker gas plant resulted in amine carryover into the TIU Mix Drum. This carryover resulted in high H_2S material being sent to the TIU Mix Drum and causing an exceedance of the 162 ppm H_2S 3-hour average limit.	Coker rates were reduced to help reduce gas flow which reduced the flooding in the bulk amine contactor. This decreased the carryover and the TIU Mix Drum gas was brought into compliance	No	No Report	No Report
P004 - West Hydrocarbon Flare	**Citation: P004: Part C.40.b)(1)c., b)(1)d., b)(1)g., (b)(1)h., c)(1)f.; P009: Part C.13.b)(2)k., P017: Part C.17.b)(2)e., C.17.b)(2)h., P025: Part C.18.b)(2)c., C.18.c)(2)l., C.18.c)(3)z., C.18.f)(2)c., P036: Part C.19.b)(2)e., C.19.c)(2)a., T164: Part C.30.b)(2)b., C.30.c)(1)o., T170: Part C.31.b)(2)b., C.31.c)(1)o., P021, P022, P023: Part C.37.b)(2)b., C.37.b)(2)e., P028, P029: Part C.38.b)(2)e., P041, P043: Part C.39.b)(2)b., C.39.b)(2)e.[40 CFR 63.11(b)(5), 60.18(c)(2) and (f)(2); OAC 3745-21-09(DD)(10)(d)]** Flares shall be operated with a flame present at all times.	X		Continuous Parameter Monitoring System (CPMSs)	4/15/2021 at 15:37 hours	4/15/2021 at 15:58 hours	The West Flare lost all pilot flames for 19 minutes	The refinery believes the outage was due to low steam flow that caused condensate to build up in the steam system and put out the pilots. No flaring was occurring at the time, all refinery gas was being recovered in the flare gas recovery system.	The pilots were manually ignited. Operations drained the remaining condensate from the line using bleeds.	No	No Report	No Report
P004 - West Hydrocarbon Flare	**Citation: P004: Part C.40.b)(1)c., b)(1)d., b)(1)g., (b)(1)h., c)(1)f.; P009: Part C.13.b)(2)k., P017: Part C.17.b)(2)e., C.17.b)(2)h., P025: Part C.18.b)(2)c., C.18.c)(2)l., C.18.c)(3)z., C.18.f)(2)c., P036: Part C.19.b)(2)e., C.19.c)(2)a., T164: Part C.30.b)(2)b., C.30.c)(1)o., T170: Part C.31.b)(2)b., C.31.c)(1)o., P021, P022, P023: Part C.37.b)(2)b., C.37.b)(2)e., P028, P029: Part C.38.b)(2)e., P041, P043: Part C.39.b)(2)b., C.39.b)(2)e.[40 CFR 63.11(b)(5), 60.18(c)(2) and (f)(2); OAC 3745-21-09(DD)(10)(d)]** Flares shall be operated with a flame present at all times.	X		Continuous Parameter Monitoring System (CPMSs)	5/5/21 at 23:08 hours	5/5/21 at 23:13 hours	The West Flare lost all pilot flames for 5 minutes	The refinery believes the outage was due to low steam flow that caused condensate to build up in the steam system and put out the pilots. No flaring was occurring at the time, all refinery gas was being recovered in the flare gas recovery system.	The pilots were manually ignited. Operations was able to dry the steam out utilizing bleeds and manipulating the ring and center steam valves. Bleeds will remain open work package is developed and implemented.	No	No Report	No Report

(PART C) Emissions Unit Terms and Conditions (Permit Requirement Reporting) - Deviation Reporting (Table 2)

THERE WERE NO DEVIATIONS OF ANY OF THE TERMS AND CONDITIONS OF Section C OF THE TITLE V PERMIT DURING THE REPORTING PERIOD SPECIFIED IN THIS REPORT

Add rows as necessary to the following table for reported deviations (one for each Term as applicable; see detailed instructions for more information)

EMISSIONS UNIT (EU) NUMBER & DESCRIPTION (See below)	TITLE V PERMIT TERM NO & DESCRIPTION	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
		Quarterly	Semi-Annual		DEVIATION DURATION Date / Time Start	DEVIATION DURATION Date / Time End	DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
P003 - East Hydrocarbon Flare	**Citation: P003: Part C.40.b(1), c)(1) [40 CFR 63 Subpart CC; [40 CFR 63.644(a)(2)]** Where a flare is used on and after January 30, 2019, the requirements of §63.670 shall be met. **[40 CFR 63.670(j)(3)]** Except as provided in paragraphs (j)(5) and (6) of this section, the owner or operator shall install, operate, calibrate, and maintain a calorimeter capable of continuously measuring, calculating, and recording NHVvg at standard conditions. *[Also reported in Part B-tbl 3 - RSR Deviation]*		X	Continuous Parameter Monitoring System (CPMSs)	5/9/2021 at 15:15 hours	5/9/2021 at 18:15 hours	The net heating value of the flare was unable to be measured on a 15-minute clock quadrant basis for thirteen (13) 15-minute blocks.	The refinery experienced an upset at the ISO unit when the ISO 69 kV transformer tripped off due to an electrical fault. As a result of the trip, power was lost to the East side instrumentation used to monitor and measure the net heating value on the East Flare.	The electrical fault was fixed and power was restored to the instrumentation so that the net heating value could be continuously monitored.	No	No Report	No Report
P003 - East Hydrocarbon Flare	**Citation: P003: Part C.40.b(1)f, b)(2)c, d)(4)k [40 CFR 60 Subpart Ja; [40 CFR 60.107a(a)(2)]** A flare that is subject to the H2S concentration requirement in 40 CFR 60.103a(h) shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration by volume (dry basis) of H2S in the fuel gases before being burned in a flare. *[Also reported in Part B-tbl 3 - RSR Deviation]*		X	Continuous Parameter Monitoring System (CPMSs)	5/9/2021 at 15:15 hours	5/9/2021 at 18:15 hours	The continuous emissions monitor for continuously monitoring and recording the concentration of H_2S in the gases being flared was not in continuous operation.	The refinery experienced an upset at the ISO unit when the ISO 69 kV transformer tripped off due to an electrical fault. As a result of the trip, power was lost to the East side instrumentation used to monitor and measure the net heating value on the East Flare.	The electrical fault was fixed and power was restored to the instrumentation so that the net heating value could be continuously monitored.	No	No Report	No Report
P003 - East Hydrocarbon Flare	**Citation: P003: Part C.40.b(1)f, b)(2)c, d)(4)t [40 CFR 60 Subpart Ja; [40 CFR 60.107a(e)(1))]** Total reduced sulfur (TRS) monitoring requirements. The permittee shall install, operate, calibrate and maintain an instrument or instruments for continuously monitoring and recording the concentration of total reduced sulfur in gas discharged to the flare. *[Also reported in Part B-tbl 3 - RSR Deviation]*		X	Continuous Parameter Monitoring System (CPMSs)	5/9/2021 at 15:15 hours	5/9/2021 at 18:15 hours	The continuous emissions monitor for continuously monitoring and recording the concentration of total reduced sulfur in the gases being flared was not in continuous operation.	The refinery experienced an upset at the ISO unit when the ISO 69 kV transformer tripped off due to an electrical fault. As a result of the trip, power was lost to the East side instrumentation used to monitor and measure the net heating value on the East Flare.	The electrical fault was fixed and power was restored to the instrumentation so that the net heating value could be continuously monitored.	No	No Report	No Report

(PART C) Emissions Unit Terms and Conditions (Permit Requirement Reporting) - Deviation Reporting (Table 2)

THERE WERE NO DEVIATIONS OF ANY OF THE TERMS AND CONDITIONS OF Section C OF THE TITLE V PERMIT DURING THE REPORTING PERIOD SPECIFIED IN THIS REPORT

Add rows as necessary to the following table for reported deviations (one for each Term as applicable; see detailed instructions for more information)

EMISSIONS UNIT (EU) NUMBER & DESCRIPTION (See below)	TITLE V PERMIT TERM NO & DESCRIPTION	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
		Quarterly	Semi-Annual		DEVIATION DURATION Date / Time Start	DEVIATION DURATION Date / Time End	DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
P004 - West Hydrocarbon Flare	**Citation: P004: Part C.40.d)(2) [40 CFR 63.644(a)(2)]** *[Note: there is not a specific Title V reference to the following requirement]* **[40 CFR 63.644(a)(2)]** Where a flare is used on and after January 30, 2019, the requirements of §63.670 shall be met. **[40 CFR 63.670(e)]** For each flare, the owner or operator shall operate the flare to maintain the net heating value of flare combustion zone gas (NHVcz) at or above 270 British thermal units per standard cubic feet (Btu/scf) determined on a 15-minute block period basis when regulated material is routed to the flare for at least 15-minutes. *[Also reported in Part B-tbl 3 - RSR Deviation]*	X		Continuous Parameter Monitoring System (CPMSs)	5/9/2021 at 18:15 hours	5/9/2021 at 18:30 hours	The net heating value of the flare was measured to be 226.6 BTU/SCF on a 15-minute clock quadrant basis, which is less than the required 270 BTU/SCF during a flaring event.	During the last 15-min block of the flaring event, it was discovered that the amount of ring steam was not adjusted to accommodate the decrease in vent gas as the flare event was ending, which caused the heating value to drop.	When the flaring event ended, the heating value returned to an acceptable value.	No	No Report	No Report
P003 - East Hydrocarbon Flare	**Citation: P003: Part C.40.d)(2)a.;** *[Note: the following language is not specifically included in the Title V; although reference to the citation is]* **[40 CFR 63.644(a)(2)]** Where a flare is used on and after January 30, 2019, the requirements of §63.670 shall be met. **[40 CFR 63.670(e)]** For each flare, the owner or operator shall operate the flare to maintain the net heating value of flare combustion zone gas (NHVcz) at or above 270 British thermal units per standard cubic feet (Btu/scf) determined on a 15-minute block period basis when regulated material is routed to the flare for at least 15-minutes. *[Also reported in Part B-tbl 3 - RSR Deviation]*	X		Continuous Parameter Monitoring System (CPMSs)	5/12/2021 at 22:00 hours	5/12/2021 at 22:30 hours	The net heating value of the flare was measured to be less than the required 270 BTU/SCF for (2) two 15-minute blocks.	After the flaring event that resulted from the start-up of the ISO 2 Recycle Splitter tower ended, the Linde hydrogen vent to the flare was inadvertently left open. The steam rate that was set for the flaring from the Recycle Splitter tower start-up was not adjusted to accommodate the decrease in vent gas flow, which caused the net heating value of the gas being flared to drop.	The Linde hydrogen valve was completely closed, and the steam rate was adjusted and the NHVcz returned to an acceptable value.	No	No Report	No Report

(PART C) Emissions Unit Terms and Conditions (Permit Requirement Reporting) - Deviation Reporting (Table 2)

THERE WERE NO DEVIATIONS OF ANY OF THE TERMS AND CONDITIONS OF Section C OF THE TITLE V PERMIT DURING THE REPORTING PERIOD SPECIFIED IN THIS REPORT

Add rows as necessary to the following table for reported deviations (one for each Term as applicable; see detailed instructions for more information)

EMISSIONS UNIT (EU) NUMBER & DESCRIPTION (See below)	TITLE V PERMIT TERM NO & DESCRIPTION	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
		Quarterly	Semi-Annual		DEVIATION DURATION Date / Time Start	DEVIATION DURATION Date / Time End	DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
P007 (FCCU / CO Boiler)	**Citation: P007, Part C.12. d)(17)(i) [40 CFR 63 Subpart UUU; 63.1572(c)(1)]** You must install, operate, and maintain each continuous parameter monitoring system according to the requirements in Table 41 of this subpart which include requirements regarding accuracy, calibrations and inspection/checks. *[Also reported in Part B-tbl 3 - RSR Deviation]*		X	Continuous Parameter Monitoring System (CPMSs)	1/1/2019	6/30/2021	FCCU Instrumentation used to demonstrate compliance may not be in compliance with all the installation, operation and maintenance requirements of MACT UUU Table 41. (previously reported)	The Refinery Sector Rule (RSR) modifications to MACT UUU require additional accuracy and maintenance requirements of certain FCCU process instrumentation. BP discovered some instrumentation not originally included for MACT UUU compliance.	A Capital Project has been initiated to confirm all of the Table 41 requirements for two flow meters in FCCU used for compliance for MACT UUU. It is expected that any equipment identified that is out of compliance will be replaced during the scheduled for the 2022 FCC Unit Turnaround. In addition, BPH will review the requirements for the temperature and pressure sensor associated with the flow meters for compliance and brought into compliance if any deficiencies are discovered.	No	No Report	No Report
P007 (FCCU / CO Boiler)	**Citation: P007 12.b)(1)a, b)(2)a), f)(1)(h)** Ammonia emissions shall not exceed 20 parts per million by volume dry basis.	X		Stack testing	10/22/2020	5/20/2021	While setting up to conduct an ammonia compliance test on 5/20/2021, the CO Boiler ammonia "slip" exceeded the 20 ppmvd limit.	The CO Boiler was down for planned tube maintenance and it is believed that after start-up of the boiler and the urea injection system which began on 10/22/2020, the ammonia "slip" exceeded the 20 ppmvd limit. The previous engineering study conducted during the 2019 stack test may not have anticipated all of the different boiler operating scenarios (i.e. ratio of FCC Regen Gas to Fuel Gas or Natural Gas); therefore, injection rates based on past operations did not maintain compliance.	The urea injection rate was adjusted until compliance was demonstrated. Engineering has been closely working with operations to maintain the urea injection rate as to not have ammonia "slip" above the 20 ppmvd limit based on preliminary information gathered during the May 2021 stack test. BPH plans to conduct another engineering study to produce urea injection operation targets at different boiler firing scenarios in the future.	No	No Report	No Report
P041 - Isocracker 2	**Citation P041; Part C.39.b)(1)a., d.,** [In accordance with 40 CFR 63.640(c)(4) and 63.648(a)(1), this emissions unit has equipment in organic HAP service and is subject to the Refinery MACT LDAR program.] *[Also reported in Part B-tbl 3]*		X	LDAR Monitoring	5/21/2021	5/21/2021	There were two (2) open-ended lines (OELs) visually identified by operations on pump PR#606481; the pump vent and drain had a single isolation valve with open piping/tubing routed to sewer.	Pump vents and drains were designed and installed prior to the current rules being in place. Since this line is a heavy liquid line, it is not frequently monitored by LDAR technicians.	Piping/tubing removed and plugs installed.	No	No Report	No Report

(PART C) Emissions Unit Terms and Conditions (Permit Requirement Reporting) - Deviation Reporting (Table 2)

THERE WERE NO DEVIATIONS OF ANY OF THE TERMS AND CONDITIONS OF Section C OF THE TITLE V PERMIT DURING THE REPORTING PERIOD SPECIFIED IN THIS REPORT

Add rows as necessary to the following table for reported deviations (one for each Term as applicable; see detailed instructions for more information)

EMISSIONS UNIT (EU) NUMBER & DESCRIPTION (See below)	TITLE V PERMIT TERM NO & DESCRIPTION	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
		Quarterly	Semi-Annual		DEVIATION DURATION Date / Time Start	DEVIATION DURATION Date / Time End	DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
P003/ P004 - East and West Hydrocarbon Flare	**Citation: P003/P004: Part C.40.d)(2)** The permittee shall comply with the applicable monitoring and record keeping requirements required in 40 CFR 63, Subpart CC: *[Note: there is not a specific Title V reference to the following requirement]* **[40 CFR 63 Subpart CC; 40 CFR 63.670(h)(2)]** (h) Subsequent to initial observations, conduct visible emissions observations using either the methods in paragraph (h)(1) or (h)(2) of this section. (h)(2) Use a video surveillance camera to continuously record (at least one frame every 15 seconds with time and date stamps) images of the flare flame and a reasonable distance above the flare flame at an angle suitable for visual emissions observations. The owner or operator must provide real-time video surveillance camera output to the control room or other continuously manned location where the camera images may be viewed at any time. *[Also reported in Part B-tbl 3 - RSR Deviation]*		X	Continuous video surveillance for visible emissions from flare	2/21/2021	6/9/2021	Photographic snapshots of the continuous records of the video surveillance camera to verify visible emissions from the flares were not available from February 21, 2021 until June 9, 2021. The video cameras were working and being used by operations to determine if visible emissions were occurring.	The server that creates the snapshots from the flare video cameras stopped functioning in February.	Honeywell was contacted to remedy this issue. The snapshots were restored on June 9, 2021, and photographic evidence of the continuous video surveillance was available for the rest of the quarter.	No	No Report	No Report
B035 - West Alstom Boilers	**Citation: B034/B035: Part C.36.b)(2)h** The permittee shall develop and maintain a written quality assurance/quality control plan for the continuous NOx monitoring system, designed to ensure continuous valid and representative readings of NOx emissions in units of the applicable standard(s)... The plan shall include the requirement to conduct linearity checks pursuant to 40 CFR Part 75.		X	Continuous Emissions Monitor Quality Assurance Plan	5/1/2021	5/13/2021	The linearity check for the NOx continuous monitoring system on the West Alstom Boiler, as required by Part 75 and the refinery's Part 75 QA/QC plan, was not completed during the appropriate timeframe.	The linearity check for the NOx continuous monitoring system was required to be completed prior to May 1, 2021. The instrumentation department responsible for completing the linearity test had multiple people on medical leave in April and it was inadvertently missed.	Once BPH determined this had been missed, the linearity check was completed as soon as possible.	No	No Report	No Report

(PART C) Emissions Unit Terms and Conditions (Permit Requirement Reporting) - Deviation Reporting (Table 2)

THERE WERE NO DEVIATIONS OF ANY OF THE TERMS AND CONDITIONS OF Section C OF THE TITLE V PERMIT DURING THE REPORTING PERIOD SPECIFIED IN THIS REPORT

Add rows as necessary to the following table for reported deviations (one for each Term as applicable; see detailed instructions for more information)

EMISSIONS UNIT (EU) NUMBER & DESCRIPTION (See below)	TITLE V PERMIT TERM NO & DESCRIPTION	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
		Quarterly	Semi-Annual		DEVIATION DURATION Date / Time Start	DEVIATION DURATION Date / Time End	DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
B034 - East Alstom Boilers	**Citation: B034/B035: Part C.36.b)(2)h** The permittee shall develop and maintain a written quality assurance/quality control plan for the continuous NOx monitoring system, designed to ensure continuous valid and representative readings of NOx emissions in units of the applicable standard(s)... The plan shall include the requirement to conduct linearity checks pursuant to 40 CFR Part 75.		X	Continuous Emissions Monitor Quality Assurance Plan	5/1/2021	7/20/2021 (East Boiler)	The linearity check for the NOx continuous monitoring system on the East Alstom Boiler, as required by Part 75 and the refinery's Part 75 QA/QC plan, was not completed during the appropriate timeframe.	The linearity check for the NOx continuous monitoring system was required to be completed prior to May 1, 2021. The instrumentation department responsible to complete the linearity test had multiple people out in April on medical leave and it was inadvertently missed.	Once BPH determined that the check had been misted, they completed the linearity check on May 13, 2021. However, at that time, the East Alstom Boiler was offline for routine maintenance. Upon further review, the QA/QC plan for the NOx analyzer indicates the boiler needs to be online for Part 75 compliance when a linearity test is completed. When this was discovered, the linearity test on the East Alstom Boiler NOx analyzer was completed again on June 5, 2021, while the East Alstom Boiler was in operation.	No	No Report	No Report
P011 (Crude/Vac 1)	**Citation: P011 Part C.15.b)(1)g., b)(2)i, b)(2)d., b)(2)f.** The permittee shall comply with the applicable requirements for equipment leaks specified in 40 CFR Part 60, Subpart GGGa for equipment leaks. *Pursuant to 40 CFR 63.640(p)(2), equipment leaks that are subject to the provisions of 40 CFR 63 Subpart CC and 40 CFR Part 60, Subpart GGGa, are required to comply only with the provisions specified in 40 CFR Part 60, Subpart GGGa.* *[Also reported as a Part B-tbl 3]*		X	LDAR Monitoring	4/1/2021	6/14/2021	There were a total of (43) untagged component identified in the Crude/Vac 1 (P011) unit that had not been monitored.	As part of the annual Process Unit LDAR walk-throughs required by the Consent Decree, there were components identified as part of an enhanced P&ID tagging audit in the Crude/Vac 1 Unit that were not in the LDAR database and therefore, were not tagged, and had not been monitored	The components were tagged and entered into LeakDAS database upon discovery. The monitoring was completed on 6/14/2021.	No	No Report	No Report
P803 (Ref 3 Unit)	**Citation: P803 Part C.24.b)(1)d., g., and j., and b)(2)c., f., and h. [40 CFR 63 Subpart CC, 40 CFR 60 Subpart GGGa]** The permittee shall comply with the requirements in 40 CFR Part 60, Subpart GGGa for applicable equipment leak provisions referencing 40 CFR Part 60, Subpart VVa. *Per 40 CFR 63.640(p)(2), equipment leaks that are also subject to the provisions of 40 CFR Part 60, Subpart GGGa, are required to comply only with the provisions specified in 40 CFR Part 60, Subpart GGGa.* [Also reported as a Part B-tbl 3]		X	LDAR Program	4/1/2021	4/15/2021	There were a total of (139) untagged component identified in the Reformer 3 (P803) unit that had not been monitored.	As part of the annual Process Unit LDAR walk-throughs required by the Consent Decree, there were components identified as part of an enhanced P&ID tagging audit in the Reformer 3 Unit that were not in the LDAR database and therefore, were not tagged, and had not been monitored	The components were tagged and entered into LeakDAS database upon discovery. The monitoring was completed on 4/15/2021.	No	No Report	No Report

(PART C) Emissions Unit Terms and Conditions (Permit Requirement Reporting) - Deviation Reporting (Table 2)

THERE WERE NO DEVIATIONS OF ANY OF THE TERMS AND CONDITIONS OF Section C OF THE TITLE V PERMIT DURING THE REPORTING PERIOD SPECIFIED IN THIS REPORT

Add rows as necessary to the following table for reported deviations (one for each Term as applicable; see detailed instructions for more information)

EMISSIONS UNIT (EU) NUMBER & DESCRIPTION (See below)	TITLE V PERMIT TERM NO & DESCRIPTION	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
		Quarterly	Semi-Annual		DEVIATION DURATION Date / Time Start	DEVIATION DURATION Date / Time End	DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
P041 (ISO2)	**Citation: P041 Part C. 39.b)(1)a,, d, and g, b)(2)c and b)(2)f** In accordance with 40 CFR 63.640(p)(2) of Subpart CC, equipment leaks that are subject to the provisions of both 40 CFR Part 60, Subpart GGGa and 40 CFR Part 63, Subpart CC are required to comply only with the provisions specified in 40 CFR Part 60, Subpart GGGa. [Also reported as a Part B-tbl 3]		X	LDAR Program	4/1/2021	5/3/2021	There were a total of (267) untagged component identified in the ISO2 (P041) unit that had not been monitored.	As part of the annual Process Unit LDAR walk-throughs required by the Consent Decree, there were components identified as part of an enhanced P&ID tagging audit in the ISO 2 Unit that were not in the LDAR database and therefore, were not tagged, and had not been monitored.	The components were tagged and entered into LeakDAS database upon discovery. The monitoring was completed on 5/3/2021.	No	No Report	No Report
P021 (Alky 1)	**Citation: P021 Part C.37.b)(1)a, d, and b)(2)a** *[Note: These citations refer to Subpart CC and NSPS GGG for LDAR requirements. This Unit currently complies through NSPS GGGa even though the language is not currently in the Title V]* In accordance with 40 CFR 63.640(p)(2) of Subpart CC, equipment leaks that are subject to the provisions of both 40 CFR Part 60, Subpart GGGa and 40 CFR Part 63, Subpart CC are required to comply only with the provisions specified in 40 CFR Part 60, Subpart GGGa. [Also reported as a Part B-tbl 3]		X	LDAR Program	4/1/2021	5/18/2021	There were a total of (27) untagged component identified in the Alky 1 (P021) unit that had not been monitored.	As part of the annual Process Unit LDAR walk-throughs required by the Consent Decree, there were components identified as part of an enhanced P&ID tagging audit in the Alky 1 Unit that were not in the LDAR database and therefore, were not tagged, and had not been monitored	The components were tagged and entered into LeakDAS database upon discovery. The monitoring was completed on 5/18/2021.	No	No Report	No Report
P059 (Sat Gas)	**Citation: P059 Part C.42.b)(1).a, c. and d; and b)(2)a., b., & c** *[Note: These citations refer to Subpart CC and NSPS GGG for LDAR requirements. This Unit currently complies through NSPS GGGa even though the language is not currently in the Title V]* In accordance with 40 CFR 63.640(p)(2) of Subpart CC, equipment leaks that are subject to the provisions of both 40 CFR Part 60, Subpart GGGa and 40 CFR Part 63, Subpart CC are required to comply only with the provisions specified in 40 CFR Part 60, Subpart GGGa. [Also reported as a Part B-tbl 3]		X	LDAR Program	4/1/2021	5/4/2021	There were a total of (54) untagged component identified in the Sat Gas Plant (P059) unit that had not been monitored.	As part of the annual Process Unit LDAR walk-throughs required by the Consent Decree, there were components identified as part of an enhanced P&ID tagging audit in the Sat Gas Unit that were not in the LDAR database and therefore, were not tagged, and had not been monitored.	The components were tagged and entered into LeakDAS database upon discovery. The monitoring was completed on 5/4/2021.	No	No Report	No Report

(PART C) Emissions Unit Terms and Conditions (Permit Requirement Reporting) - Deviation Reporting (Table 2)

THERE WERE NO DEVIATIONS OF ANY OF THE TERMS AND CONDITIONS OF Section C OF THE TITLE V PERMIT DURING THE REPORTING PERIOD SPECIFIED IN THIS REPORT

Add rows as necessary to the following table for reported deviations (one for each Term as applicable; see detailed instructions for more information)

EMISSIONS UNIT (EU) NUMBER & DESCRIPTION (See below)	TITLE V PERMIT TERM NO & DESCRIPTION	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
		Quarterly	Semi-Annual		DEVIATION DURATION Date / Time Start	DEVIATION DURATION Date / Time End	DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
P043 (Cat Poly)	**Citation: P043 Part C. 39.b)(1)a,, d, and f, b)(2)c and b)(2)e** *[Note: These citations refer to Subpart CC and NSPS GGG for LDAR requirements. This Unit currently complies through NSPS GGGa even though the language is not currently in the Title V]* In accordance with 40 CFR 63.640(p)(2) of Subpart CC, equipment leaks that are subject to the provisions of both 40 CFR Part 60, Subpart GGGa and 40 CFR Part 63, Subpart CC are required to comply only with the provisions specified in 40 CFR Part 60, Subpart GGGa. [Also reported as a Part B-tbl 3]		X	LDAR Program	4/1/2021	5/24/2021	There were a total of (21) untagged component identified in the Cat Poly (P043) unit that had not been monitored.	As part of the annual Process Unit LDAR walk-throughs required by the Consent Decree, there were components identified as part of an enhanced P&ID tagging audit in the Cat Poly Unit that were not in the LDAR database and therefore, were not tagged, and had not been monitored.	The components were tagged and entered into LeakDAS database upon discovery. The monitoring was completed on 5/24/2021.	No	No Report	No Report
P029 (BGOT Unit)	**Citation: P029 Part C. 38.b)(1)b,, d, and h, b)(2)d and b)(2)i** In accordance with 40 CFR 63.640(p)(2) of Subpart CC, equipment leaks that are subject to the provisions of both 40 CFR Part 60, Subpart GGGa and 40 CFR Part 63, Subpart CC are required to comply only with the provisions specified in 40 CFR Part 60, Subpart GGGa. [Also reported as a Part B-tbl 3]		X	LDAR Program	4/1/2021	4/26/2021	There were a total of (45) untagged component identified in the BGOT (P029) unit that had not been monitored.	As part of the annual Process Unit LDAR walk-throughs required by the Consent Decree, there were components identified as part of an enhanced P&ID tagging audit in the BGOT Unit that were not in the LDAR database and therefore, were not tagged, and had not been monitored.	The components were tagged and entered into LeakDAS database upon discovery. The monitoring was completed on 4/26/2021.	No	No Report	No Report
P007 (FCC & CO Boiler)	**Citation: P007 Part C. 12.b)(1)h,, i, and n, b)(2)p** In accordance with 40 CFR 63.640(p)(2) of Subpart CC, equipment leaks that are subject to the provisions of both 40 CFR Part 60, Subpart GGGa and 40 CFR Part 63, Subpart CC are required to comply only with the provisions specified in 40 CFR Part 60, Subpart GGGa. [Also reported as a Part B-tbl 3]		X	LDAR Program	4/1/2021	6/29/2021	There were a total of (23) untagged component identified in the FCCU (P007) unit that had not been monitored.	As part of the annual Process Unit LDAR walk-throughs required by the Consent Decree, there were components identified as part of an enhanced P&ID tagging audit in the FCC Unit that were not in the LDAR database and therefore, were not tagged, and had not been monitored.	The components were tagged and entered into LeakDAS database upon discovery. The monitoring was completed on 6/29/2021.	No	No Report	No Report

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City of Toledo
Division of Environmental Services
348 S. Erie Street
Toledo, OH 43604

April 29, 2021

Attn.: Mr. Peter Park

RE: 2020 Title V Permit Annual Compliance Certification
For the Period January 1, 2020 through December 31, 2020
BP-Husky Refining LLC, Facility ID: 04-48-02-0007

Dear Mr. Park:

This letter and its attachments represent the Annual Certification of Compliance for the BP-Husky Refining LLC (BP-Husky) Title V Permit for the operating period January 1, 2020 through December 31, 2020. The Title V Permit (P0104782) was renewed and issued on July 13, 2017 and became effective on August 3, 2017. This Annual Compliance Certification report and its attachments address all federally enforceable emissions limitations, standards and work practices in the BP-Husky refinery's Title V Permit (P0104782). The requirement for this certification is outlined in the General Terms and Conditions in the Title V Permit (P0104782), Part A, Condition 13.d.

Attachment A explains the approach and nomenclature that BP-Husky has used in preparing this report.

Attachment B provides a tabulation of all known Title V deviations that occurred between January 1 through December 31, 2020, for the terms and conditions of the Title V Permit (P0104782), issued on July 13, 2017. Attachment B includes separate tables of deviations for Parts A, B and C of the permit. The tables in Attachment B follow the general format of the forms that Ohio EPA has provided for this purpose. This is the same general format that has been used in reporting annual certification in prior years from 2007 to 2019. The certification has been prepared following OEPA's guidance issued in 2006 that only permit conditions with actual deviations should be reported. Table C also includes a known deviation to the permit to install (PTI) terms and conditions for which a Title V Minor Permit Modification had been submitted, but had not yet been incorporated into this Title V.

In early 2021, BP-Husky completed an internal audit of its requirements that became applicable due to the revisions to 40 CFR 63 Subparts CC and UUU (Refinery MACT I and II) as part of EPA's Petroleum Refinery Sector Risk and Technology Review Rule (RSR). During this audit, it was discovered that fourteen (14) external floating roof (EFR) tanks subject to the 40 CFR 63 Subpart CC requirements for Group 1 storage tanks did not comply with all of the inspection requirements of 40 CFR 63 Subpart WW, which is referenced in 40 CFR 63.646 of Subpart CC. The regulatory citation for the missed inspection requirements is:

> *[40 CFR 63.1063(c)(2)(iii)] EFRs shall be inspected each time the storage vessel is completely emptied and degassed, or every 10 years, whichever occurs first, the EFR shall be inspected as specified in 63.1063(d)(1).*
>
> Specifically - 40 CFR 63.1063(d)(1)(iii) requires that the permittee inspect ... *Floating roof deck, deck fittings, or rim seals that are not functioning as designed (as specified in paragraph (a) of this section*

The 14 Group 1 EFR tanks that did not comply with these requirements are included in Table 1 below. These deviations occurred because all the EFR tank requirements had not been incorporated into the refinery's compliance tasking system. BPH had been conducting and completing the required 5-year inspections for these EFR tanks. Inadvertently, BPH did not realize that the 10-year inspection requirements were different from the 5-year inspection requirements and that additional inspections of the tank deck fittings or rim seals were required. When the deficiency was discovered, BPH scheduled and completed all the required inspections by the end of the first quarter in 2021. No further deviations were found identified during the inspections. Table 1 below lists the affected tanks and the dates by which the inspections were required and when they were completed. Deviations from these requirements have not been previously reported in the quarterly Title V Deviation reports that were submitted for 2020. The Title V citations for these deviations are identified in the Part B deviations in Attachment B.

Table 1
Group 1 Subpart CC EFR Tanks Not Inspected within 10-years

OEPA ID	Tank #	Last Empty Tank Inspection	10 year inspection due	Date 10 year inspection Completed
T029	99	10/7/2004	10/7/2014	2/9/2021
T020	647	3/15/2005	3/15/2015	2/15/2021
T097	270	9/20/2007	9/20/2017	2/2/2021
T030	813	11/12/2007	11/12/2017	2/15/2021
T036	123	7/7/2008	7/7/2018	2/3/2021
T033	816	11/19/2008	11/19/2018	3/4/2021
T027	186	5/28/2009	5/28/2019	2/9/2021
T038	120	6/18/2009	6/18/2019	2/11/2021
T120	132	7/22/2009	7/22/2019	3/26/2021

OEPA ID	Tank #	Last Empty Tank Inspection	10 year inspection due	Date 10 year inspection Completed
T034	817	4/1/2010	4/1/2020	3/2/2021
T039	121	5/5/2010	5/5/2020	2/10/2021
T028	189	5/19/2010	5/19/2020	2/10/2021
T060	65	5/24/2010	5/24/2020	3/18/2021
T031	814	9/9/2010	9/9/2020	2/19/2021

In late 2019, the refinery initiated an audit of the site's compliance with NSPS Subpart QQQ as part of the BP, BPH, US EPA and Ohio EPA consent decree negotiations that were underway at the time. The audit was finalized, and a compliance plan for the findings from this audit was submitted to TDES on July 21, 2020. Per this compliance plan, the findings from the audit were required to be verified prior to becoming a final deviation. One of the audit findings was verified as a devation on January 15, 2021. This finding is being related back to the audit completion date of April 22, 2020 and is therefore being added now. The NSPS QQQ audit discovered that the 2015 Applicability Assessment report that had previously identified the 1993 Benzene Stripper project as not triggering the requirements of NSPS QQQ was incorrect. The 14 drain hubs, 4 clean-outs, 10 catch basins and 5 manholes installed as part of the Benzene Stripper project are subject to the requirements of NSPS QQQ and should be controled. BPH has scheduled these upgrades to be completed by December 31, 2022 and will report such gaps in the quarterly Title V Deviation report(s) until the upgrades are completed.

This certification was prepared in accordance with a system designed to assure that qualified personnel gathered and evaluated all reasonably available information relevant to compliance with the terms and conditions of the applicable Part 70 permit during the 2020 operating year, and that they then reported their conclusions with respect to compliance. Based on my inquiry, I believe the contents of the enclosed report to be true, accurate, and complete; however, this certification should not be read to imply that I have personally reviewed all documentation underlying the compliance determination for the terms and conditions of BP-Husky's Title V Permit. Nor should it be read to imply that the persons responsible for gathering and evaluating the information relied on in making the certification have reviewed all information generated by the operations at the facility. As with any regulatory program, it is possible that there were deviations from permit conditions which may not have been identified in the normal course of a good faith effort to implement the required compliance efforts under these programs.

In addition, this certification should not be construed as containing any admissions that the reported deviations or other events are violations of any applicable requirement. In some cases, applicable rules contain various defenses and/or exemptions, which may excuse particular deviations. In other cases, the question of whether a particular event constituted a deviation or violation may be subject to interpretational disputes. In still other cases, events may be reported as deviations out of an abundance of caution despite the fact there is insufficient factual information to determine whether the deviation actually occurred.

If you have any questions regarding this submittal, do not hesitate to contact Ashley Zapp at Ashley.zapp@bp.com or (567) 698-4410.

Sincerely,

Des Gillen

Des Gillen
President - BP-Husky Refining LLC

Attachments

Attachment A

BP-Husky Refining LLC
Annual Certification Report
"Approach and Nomenclature"

- The certification report is submitted using tables that follow the general format of the forms that Ohio EPA has provided for this purpose. This is the same general format that has been used in reporting annual certification in prior years from 2007 to 2019. It is prepared following OEPA's guidance issued in 2006 that we should only report permit conditions with actual deviations.

- The first column in the Certification table provides the Permit Term Number. Most of the permit term numbers have a fairly straightforward, one-to-one relationship with individual permit conditions.

- The majority of the excursions or deviations presented in this annual certification were already reported to OEPA and Toledo Division of Environmental Services (TDES) in one of our Title V quarterly or semiannual deviation reports. The specific report, or reports, that provide the details of each deviation incident are identified in the column entitled: "Those Documented within Excursion/Deviation Reports Submitted to Toledo Division of Environmental Services (Identify Date of Each Report)".

- BP-Husky has identified some instances where a previously reported incident constitutes a deviation of additional permit conditions of the permit than had been previously identified. For example, the quarterly deviation report may have highlighted the deviation in relation to an explicit condition in Part C of the permit but missed the fact that it also constitutes a violation of a condition in Part B of the permit. In such instances, the details about the new citation have been added in the column entitled: "Other - Explain the Nature, Duration, Cause of Excursion/Deviation, and Corrective Actions Taken".

- BP-Husky has also found some instances, where upon further investigation; an erroneous deviation was reported from a Title V Permit term in one of the quarterly or semiannual deviation reports that were submitted. In such instances, the detail about the erroneously reported citation has been added in the column entitled: "Other - Explain the Nature, Duration, Cause of Excursion/Deviation, and Corrective Actions Taken" for related citations that were added or correctly reported.

Title V
Compliance Certification

A. Facility Name: BP-Husky Refining, LLC

B. Facility Address: 4001 Cedar Point Road, Oregon, OH 43616

C. Facility ID [10 digits] : 04-48-02-0007

D. Final Title V Permit Issuance Date [Multiple dates should be identified if the permit was modified or renewed during the reporting year]:

Original Title V Permit issued 9/27/04
And
Title V Renewal Permit P0104782, effective August 3, 2017.

E. Reporting Period (usually the preceding calendar year): 2020 Total pages in this Certification: 24

F. Identification of intermittent compliance [add rows as necessary or indicate in the last row of the table below if attaching an Air Services Compliance Certification print out, or a facility-generated printout that is equivalent to what is detailed in the table below]:

*Identify the Emissions Unit and the Emission Limitation/Control Measure or the Permit Term No.	Method Used to Determine Compliance	Excursions/Deviations	
		Those Documented Within Excursion/Deviation Reports Submitted to OEPA District Office or Local Air Agency (Identify Date of Each Report)	Other (Explain the Nature, Duration, and Probable Cause of the Excursion/Deviation, As Well As Any Corrective Action Taken)
See attached Tables for details			
	Place an "X" in the box to the left if you have attached a facility-generated printout in addition to or lieu of completing the rows above (this information must be uploaded to Air Services, along with this completed Certification).		

***For IEUs, include the permit number or SIP-based applicable requirement rule reference**

G. Any material information not established through the applicable permit terms and conditions that may indicate non-compliance [add rows as necessary]:

*Identify the Emissions Unit or briefly describe the requirement	Description of material information
None	

***For IEUs, include the permit number or SIP-based applicable requirement rule reference**

H. Certification of Compliance:

Except as indicated in Sections F and G above, all emissions units subject to one or more applicable requirements operated in continuous compliance with all federally enforceable permit terms and conditions throughout the calendar year identified in Section E above.

I, being the individual specified in OAC rule 3745-77-03(D), hereby affirm that every permit term and condition, including every permit term and condition or SIP-approved rule reference for each insignificant emissions unit that is based on an applicable requirement, has been reviewed with respect to intermittent or continuous compliance. I, being the individual specified in OAC rule 3745-77-03(D), hereby affirm that the facility identified in Sections A through C above was in continuous compliance with every permit term and condition during the reporting period, except as specified in Section F and Section G of this certification. I, being the individual specified in OAC rule 3745-77-03(D), hereby affirm that the statements made in this Title V Compliance Certification, which I am submitting to Ohio EPA via the Ohio EPA's *Air Services* software on the date indicated in Air Services, are true, accurate and complete, based on information and belief formed after reasonable inquiry. My completion of the attestation as part of the PIN process within Air Services also serves as my electronic signature and certification of this Title V Compliance Certification. But note, in completing the attestation as part of the PIN process within Air Services, I am not attesting that I have personally examined and am familiar with this facility's compliance with every permit term and condition covered by the certification period, I am only attesting that I have personally examined this Compliance Certification and am familiar with the information submitted herein as being true, accurate and complete based on information and belief formed after reasonable inquiry, as the Certification so states.

Note: If confidential or trade secret information is included in this submission, a copy of this Title V Compliance Certification must be submitted (i.e., post marked) to the Administrator of the United States Environmental Protection Agency c/o Director, Air and Radiation Division, U.S. EPA Region 5, 77 W. Jackson Blvd., AE-17J, Chicago, Illinois 60604. If required, it is recommended that this compliance certification be sent by certified mail to U.S. EPA. Otherwise, submission of this Certification via Air Services meets the requirement to submit a copy of the Compliance Certification to U.S. EPA.

Des Gillen	April 29, 2021
Authorized Signature	Date
Des Gillen	President, BP-Husky Refining LLC
Name (Please Print or Type)	Title

Attachment B
Deviations of the revised Title V Permit P0104782
January 1, 2020 through December 31, 2020

			Excursions/Deviations	
Title V Permit Citation	**Method Used to Determine Compliance**	**Continuous (C) or Intermittent (I) Compliance?**	**Those Documented within Excursion/Deviation Reports Submitted to Toledo Division of Environmental Services (Identify Date of Each Report)**	**Other - Explain the Nature, Duration, Cause of Excursion/Deviation, and Corrective Actions Taken**
A.19.	LDAR monitoring program visual inspection	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20	

			Excursions/Deviations	
Title V Permit Citation	**Method Used to Determine Compliance**	**Continuous (C) or Intermittent (I) Compliance?**	**Those Documented within Excursion/Deviation Reports Submitted to Toledo Division of Environmental Services (Identify Date of Each Report)**	**Other - Explain the Nature, Duration, Cause of Excursion/Deviation, and Corrective Actions Taken**
B.2.b)(2)b.i.	Visual inspection records	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
B. 2. b) (2) d.	LDAR Program records	I	Fourth Quarter Deviation Report, submitted 1-31-20	
B. 2. d) (1) g.	Review of monitoring records	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-2020)	
B.2.d)(2)n.	Visual inspection records	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-2020)	
B.2.d)(2)o.	LDAR Program records	I	Fourth Quarter Deviation Report, submitted 1-31-20	
B. 2. d) (4) a.	Visual inspection records	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
B. 2. d) (5) o.	Visual inspection records	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	

				Excursions/Deviations	
Emission Unit(s)	**Title V Permit Citation**	**Method Used to Determine Compliance**	**Continuous (C) or Intermittent (I) Compliance?**	**Those Documented within Excursion/Deviation Reports Submitted to Toledo Division of Environmental Services (Identify Date of Each Report)**	**Other - Explain the Nature, Duration, Cause of Excursion/Deviation, and Corrective Actions Taken**
B015 - Crude 1 Furnace	C. 1. b) (2) a.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
B015 - Crude 1 Furnace	C. 1. b) (2) b.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
B015 - Crude 1 Furnace	C. 1. c) (2)	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
B015 - Crude 1 Furnace	C. 1. f) (1) a.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
B019 - Crude/Vac 2 Furnace	C. 2. b) (2) b.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
B019 - Crude/Vac 2 Furnace	C. 2. b) (2) e.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
B019 - Crude/Vac 2 Furnace	C. 2. c) (2)	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
B019 - Crude/Vac 2 Furnace	C. 2. f) (1) c.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
B029 - ADHT Furnace	C. 3. b) (2) e.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
B029 - ADHT Furnace	C. 3. f) (1) j.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	

Emission Unit(s)	Title V Permit Citation	Method Used to Determine Compliance	Continuous (C) or Intermittent (I) Compliance?	Those Documented within Excursion/Deviation Reports Submitted to Toledo Division of Environmental Services (Identify Date of Each Report)	Other - Explain the Nature, Duration, Cause of Excursion/Deviation, and Corrective Actions Taken
B031 - Vac 1 Furnace	C. 4. b) (2) d.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
B031 - Vac 1 Furnace	C. 4. c) (2)	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
B031 - Vac 1 Furnace	C. 4. f) (1) f.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
B032 - Coker 3 Furnace	C. 5. b) (2) d.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
B032 - Coker 3 Furnace	C. 5. c) (2)	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
B032 - Coker 3 Furnace	C. 5. f) (1) j.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
B036 - Reformer 3 Heater	C. 6. b) (1) g.	Record keeping requirements	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20)	
F001 - Plant Roadways	C. 7. b) (2) c.	Dust Control Contractor's Daily Completion Report	I	Third Quarter Deviation Report, submitted 10-30-20	
P007 - FCC & CO Boiler	C. 12. b) (1) b.	LDAR Records	I	Fourth Quarter Deviation Report, submitted 1-31-21	
P007 - FCC & CO Boiler	C. 12. b) (1) j.	LDAR Records	I	Fourth Quarter Deviation Report, submitted 1-31-21	
P007 - FCC & CO Boiler	C. 12. b) (1) n.	LDAR Records	I	Fourth Quarter Deviation Report, submitted 1-31-21	
P007 - FCC & CO Boiler	C. 12. b) (1) q.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	

Emission Unit(s)	Title V Permit Citation	Method Used to Determine Compliance	Continuous (C) or Intermittent (I) Compliance?	Those Documented within Excursion/Deviation Reports Submitted to Toledo Division of Environmental Services (Identify Date of Each Report)	Other - Explain the Nature, Duration, Cause of Excursion/Deviation, and Corrective Actions Taken
P007 - FCC & CO Boiler	C. 12. b) (2) e.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
P007 - FCC & CO Boiler	C. 12. b) (2) f.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
P007 - FCC & CO Boiler	C. 12. b) (2) p.	LDAR Records	I	Fourth Quarter Deviation Report, submitted 1-31-21	
P007 - FCC & CO Boiler	C. 12. c) (3) c.	Continuous Monitoring System (CEMs)	I	Fourth Quarter Deviation Report, submitted 1-31-21	
P007 - FCC & CO Boiler	C. 12. d) (17) i.	Continuous Parameter Monitoring System (CPMSs)	I	Fourth Quarter Deviation Report, submitted 1-31-21	
P007 - FCC & CO Boiler	C. 12. f) (1) c.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
P009 - Sulfur Recovery Unit	C. 13. b) (1) f.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20	
P009 - Sulfur Recovery Unit	C. 13. b) (1) i.	Continuous Parametric Monitoring (Temperature Indicators)	I	Fourth Quarter Deviation Report, submitted 1-31-21	
P009 - Sulfur Recovery Unit	C. 13. b) (1) j.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
P009 - Sulfur Recovery Unit	C. 13. b) (2) j.	Continuous Parameter Monitoring System (CPMSs)	I	Fourth Quarter Deviation Report, submitted 1-31-21	
P009 - Sulfur Recovery Unit	C. 13. b) (2) k.	Continuous Pilot Flame Monitor	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20	
P009 - Sulfur Recovery Unit	C. 13. c) (1) b.	Continuous Monitoring System (CMS)	I	Fourth Quarter Deviation Report, submitted 1-30-21	

Emission Unit(s)	Title V Permit Citation	Method Used to Determine Compliance	Continuous (C) or Intermittent (I) Compliance?	Those Documented within Excursion/Deviation Reports Submitted to Toledo Division of Environmental Services (Identify Date of Each Report)	Other - Explain the Nature, Duration, Cause of Excursion/Deviation, and Corrective Actions Taken
P009 - Sulfur Recovery Unit	C. 13. d) (3)	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20	
P009 - Sulfur Recovery Unit	C. 13. d) (6) f.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20	
P009 - Sulfur Recovery Unit	C. 13. d) (7) a.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20	
P010 - Crude/Vac 2	Citation: PTI P0124661 P010 Part C.(1) e)(5)	Records Review	I	Fourth Quarter Deviation Report, submitted 1-30-21	This deviation was a deviation from the PTI P0124661, issued on 11/28/2018. BPH did not submit the Initial Compliance Status report required by 40 CFR 65.5, which is referenced by NSPS NNN for the Crude/Vac 2 startup to US EPA within 60 days after startup of the modification that triggered NSPS applicability. This deviation was included in the 4Q2020 report. The Title V permit P0104782 issued on 7/13/2017 does not have a specific permit citation for this condition. BPH submitted a Title V Minor Permit Modification application on 6/26/2020 to incorporate the conditions of this PTI into the Title V permit.
P010 - Crude/Vac 2	C. 14. b) (1) c.	LDAR Program	I	Second Quarter Deviation Report, submitted 7-30-20	
P010 - Crude/Vac 2	C. 14. b) (1) e.	LDAR Program	I	Second Quarter Deviation Report, submitted 7-30-20	
P010 - Crude/Vac 2	C. 14. b) (1) f.	LDAR Program	I	Second Quarter Deviation Report, submitted 7-30-20	
P010 - Crude/Vac 2	C. 14. b) (2) c.	LDAR Program	I	Second Quarter Deviation Report, submitted 7-30-20	
P010 - Crude/Vac 2	C. 14. b) (2) d.	LDAR Program	I	Second Quarter Deviation Report, submitted 7-30-20	
P010 - Crude/Vac 2	C. 14. b) (2) e.	LDAR Program	I	Second Quarter Deviation Report, submitted 7-30-20	

Emission Unit(s)	Title V Permit Citation	Method Used to Determine Compliance	Continuous (C) or Intermittent (I) Compliance?	Those Documented within Excursion/Deviation Reports Submitted to Toledo Division of Environmental Services (Identify Date of Each Report)	Other - Explain the Nature, Duration, Cause of Excursion/Deviation, and Corrective Actions Taken
P017 - Coker 2	C. 17. b) (2) c.	Continuous Parameter Monitoring System (CPMSs)	I	Fourth Quarter Deviation Report, submitted 1-31-21	
P017 - Coker 2	C. 17. b) (2) e.	Continuous Pilot Flame Monitor	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20	
P017 - Coker 2	C. 17. b) (2) h.	Continuous Pilot Flame Monitor	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
P025 - Refinery WWT System	C. 18. b) (1)	Program Audit	I	Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	An NSPS QQQ audit was conducted in late 2019 per a recent Consent Decree at the BPH refinery. This audit found that the 2015 Applicability Assessment report that had previously identified the 1993 Benzene Stripper project as not triggering the requirements of NSPS QQQ was incorrect. A compliance plan was developed for the findings from the QQQ Audit and submitted to TDES on July 21, 2020. Per this plan, the audit finding was to be reviewed and verified prior to becoming final deviation. The verification for these drains was completed on January 15, 2021, and was inadvertently not reported in the 4Q2020 deviation report. BPH is now reporting this deviation and the details are included in the cover letter of this ACC for 2020.
P025 - Refinery WWT System	C. 18. b) (1) b.	Program Audit	I		A section of the slop oil line from the Oil-water separators to the slop oil pump was found not to be enclosed and was included in the 1Q2020 Deviation report. This citation was inadvertently left off of the 1Q2020 report. A new seal cover was installed on 1/20/20.

Emission Unit(s)	Title V Permit Citation	Method Used to Determine Compliance	Continuous (C) or Intermittent (I) Compliance?	Those Documented within Excursion/Deviation Reports Submitted to Toledo Division of Environmental Services (Identify Date of Each Report)	Other - Explain the Nature, Duration, Cause of Excursion/Deviation, and Corrective Actions Taken
P025 - Refinery WWT System	C. 18. b) (1) h.	Program Audit	I	Third Quarter Deviation Report, submitted 10-30-20	
P025 - Refinery WWT System	C. 18. b) (1) i.	Field Audit	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7/30/2020) Second Quarter Deviation Report, submitted 7-30-20	The deviation reported in 1Q2020 report for a section of the oil-water separator not being enclosed, is also a deviation from C.18.b)(1)b and C.18.b)(2)b. These citations were inadvertently not included in the 1Q2020 report for this deviation, but are included in this 2020 ACC.
P025 - Refinery WWT System	C. 18. b) (2) b.	Program Audit	I		A section of the slop oil line from the Oil-water separators to the slop oil pump was found not to be enclosed and was included in the 1Q2020 Deviation report. This citation was inadvertently left off of the 1Q2020 report. A new seal cover was installed on 1/20/20.
P025 - Refinery WWT System	C. 18. b) (2) c.	Continuous Pilot Flame Monitor	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21 (P004 only)	
P025 - Refinery WWT System	C. 18. b) (2) j.	Field Audit	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20	

Emission Unit(s)	Title V Permit Citation	Method Used to Determine Compliance	Continuous (C) or Intermittent (I) Compliance?	Those Documented within Excursion/Deviation Reports Submitted to Toledo Division of Environmental Services (Identify Date of Each Report)	Other - Explain the Nature, Duration, Cause of Excursion/Deviation, and Corrective Actions Taken
P025 - Refinery WWT System	C. 18. b) (2) j. i.	Program Audit	I	Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	An NSPS QQQ audit was conducted in late 2019 per a recent Consent Decree at the BPH refinery. This audit found that the 2015 Applicability Assessment report that had previously identified the 1993 Benzene Stripper project as not triggering the requirements of NSPS QQQ was incorrect. A compliance plan was developed for the findings from the QQQ Audit and submitted to TDES on July 21, 2020. Per this plan, the audit finding was to be reviewed and verified prior to becoming final deviation. The verification for these drains was completed on January 15, 2021. BPH is now reporting this deviation and the details are included in the cover letter of this ACC for 2020.
P025 - Refinery WWT System	C. 18. b) (2) j. ii.	Program Audit	I	Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	An NSPS QQQ audit was conducted in late 2019 per a recent Consent Decree at the BPH refinery. This audit found that the 2015 Applicability Assessment report that had previously identified the 1993 Benzene Stripper project as not triggering the requirements of NSPS QQQ was incorrect. A compliance plan was developed for the findings from the QQQ Audit and submitted to TDES on July 21, 2020. Per this plan, the audit finding was to be reviewed and verified prior to becoming final deviation. The verification for these drains was completed on January 15, 2021, and was inadvertently not reported in the 4Q2020 deviation report. BPH is now reporting this deviation and the details are included in the cover letter of this ACC for 2020.

Emission Unit(s)	Title V Permit Citation	Method Used to Determine Compliance	Continuous (C) or Intermittent (I) Compliance?	Those Documented within Excursion/Deviation Reports Submitted to Toledo Division of Environmental Services (Identify Date of Each Report)	Other - Explain the Nature, Duration, Cause of Excursion/Deviation, and Corrective Actions Taken
P025 - Refinery WWT System	C. 18. c) (2) I.	Continuous Pilot Flame Monitor	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20	
P025 - Refinery WWT System	C. 18. c) (3) b.	Program Audit	I	Third Quarter Deviation Report, submitted 10-30-20	
P025 - Refinery WWT System	C. 18. c) (3) c.	Review of design drawings and inspection of equipment	I	Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	An NSPS QQQ audit was conducted in late 2019 per a recent Consent Decree at the BPH refinery. This audit found that the 2015 Applicability Assessment report that had previously identified the 1993 Benzene Stripper project as not triggering the requirements of NSPS QQQ was incorrect. A compliance plan was developed for the findings from the QQQ Audit and submitted to TDES on July 21, 2020. Per this plan, the audit finding was to be reviewed and verified prior to becoming final deviation. The verification for these drains was completed on January 15, 2021. BPH is now reporting this deviation and the details are included in the cover letter of this ACC for 2020.
P025 - Refinery WWT System	C. 18. c) (3) h.	Field Audit	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-2020)	The deviation reported in 1Q2020 report for a section of the oil-water separator not being enclosed, is also a deviation from C.18.b)(1)b and C.18.b)(2)b. These citations were inadvertently not included in the 1Q2020 report for this deviation, but are included in this 2020 ACC.

Emission Unit(s)	Title V Permit Citation	Method Used to Determine Compliance	Continuous (C) or Intermittent (I) Compliance?	Those Documented within Excursion/Deviation Reports Submitted to Toledo Division of Environmental Services (Identify Date of Each Report)	Other - Explain the Nature, Duration, Cause of Excursion/Deviation, and Corrective Actions Taken
P025 - Refinery WWT System	C. 18. c) (3) l.	Field Audit	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-2020) Second Quarter Deviation Report, submitted 7-30-20	The deviation reported in 1Q2020 report for a section of the oil-water separator not being enclosed, is also a deviation from C.18.b)(1)b and C.18.b)(2)b. These citations were inadvertently not included in the 1Q2020 report for this deviation, but are included in this 2020 ACC.
P025 - Refinery WWT System	C. 18. c) (3) z.	Continuous Pilot Flame Monitor	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20	
P025 - Refinery WWT System	C. 18. d) (3) l.	Monitoring	I	Second Quarter Deviation Report, submitted 7-30-20	
P025 - Refinery WWT System	C. 18. d) (5) c.	Program Audit	I	Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	An NSPS QQQ audit was conducted in late 2019 per a recent Consent Decree at the BPH refinery. This audit found that the 2015 Applicability Assessment report that had previously identified the 1993 Benzene Stripper project as not triggering the requirements of NSPS QQQ was incorrect. A compliance plan was developed for the findings from the QQQ Audit and submitted to TDES on July 21, 2020. Per this plan, the audit finding was to be reviewed and verified prior to becoming final deviation. The verification for these drains was completed on January 15, 2021. BPH is now reporting this deviation and the details are included in the cover letter of this ACC for 2020.
P025 - Refinery WWT System	C. 18. e) (3) d.	Program Audit	I	Third Quarter Deviation Report, submitted 10-30-20	

Emission Unit(s)	Title V Permit Citation	Method Used to Determine Compliance	Continuous (C) or Intermittent (I) Compliance?	Those Documented within Excursion/Deviation Reports Submitted to Toledo Division of Environmental Services (Identify Date of Each Report)	Other - Explain the Nature, Duration, Cause of Excursion/Deviation, and Corrective Actions Taken
P025 - Refinery WWT System	C. 18. f) (2) c.	Continuous Pilot Flame Monitor	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20	
P036 - Coker 3	C. 19. b) (2) d.	Continuous Parameter Monitoring System (CPMSs)	I	Fourth Quarter Deviation Report, submitted 1-31-21	
P036 - Coker 3	C. 19. b) (2) e.	Continuous Pilot Flame Monitor	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
P036 - Coker 3	C. 19. c) (2) a.	Continuous Pilot Flame Monitor	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
P037 - Sulfur Recovery Unit #2 and #3	C. 20. b) (2) h.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
P037 - Sulfur Recovery Unit #2 and #3	C. 20. d) (10)	Continuous Parameter Monitoring System (CPMSs)	I	Fourth Quarter Deviation Report, submitted 1-31-21	
P037 - Sulfur Recovery Unit #2 and #3	C. 20. d) (11) b.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
P037 - Sulfur Recovery Unit #2 and #3	C. 20. f) (1) i.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
P053 - Diesel Engine #3	C. 22. d) (4)	Refinery Records	I	Fourth Quarter Deviation Report, submitted 1-31-21	

Emission Unit(s)	Title V Permit Citation	Method Used to Determine Compliance	Continuous (C) or Intermittent (I) Compliance?	Those Documented within Excursion/Deviation Reports Submitted to Toledo Division of Environmental Services (Identify Date of Each Report)	Other - Explain the Nature, Duration, Cause of Excursion/Deviation, and Corrective Actions Taken
P053 - Diesel Engine #3	C. 22. d) (5)	Refinery Records	I	Fourth Quarter Deviation Report, submitted 1-31-21	
P054 - Diesel Engine #4	C. 23. d) (3)	Refinery Records	I	Fourth Quarter Deviation Report, submitted 1-31-21	
P803 - Reformer 3 Process Unit	C. 24. d) (1) b.	Continuous Parameter Monitoring System (CPMSs)	I	Fourth Quarter Deviation Report, submitted 1-31-21	
P803 - Reformer 3 Process Unit	C. 24. d) (1) j.	Continuous Parameter Monitoring System (CPMSs)	I	Fourth Quarter Deviation Report, submitted 1-31-21	
T120 - EFR, PR-500132	C. 28. b) (1) d.	Records review and compliance tasking software	I	Not previously reported in 2020 Title V Deviation Report	BPH conducted an internal audit on the new applicable requirements from the Refinery Sector Rule update to 40 CFR 63 Subpart CC. Specifically, the requirements of 40 CFR 63 Subpart WW for Group 1 EFR referenced from 40 CFR 63.646. The findings from this audit were finalized in 1Q2021. It was discovered that while BPH was completing all of the 5-year inspection requirements, there was an additional 10-year inspection requirement for the floating roof deck, deck fittings or rim seals that had not been completed. This was a new requirement that was inadvertently missed. The inspection was completed by the end of 1Q2021. The details of this deviation are included in the cover letter of this 2020 ACC Report.
T164 - FR, PR-500295	C. 30. b) (2) b.	Continuous Pilot Flame Monitor	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21 (P004 only)	

Emission Unit(s)	Title V Permit Citation	Method Used to Determine Compliance	Continuous (C) or Intermittent (I) Compliance?	Those Documented within Excursion/Deviation Reports Submitted to Toledo Division of Environmental Services (Identify Date of Each Report)	Other - Explain the Nature, Duration, Cause of Excursion/Deviation, and Corrective Actions Taken
T164 - FR, PR-500295	C. 30. c) (1) o.	Continuous Pilot Flame Monitor	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20	
T170 - FR, PR-500294	C. 31. b) (2) b.	Continuous Pilot Flame Monitor	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21 (P004 only)	
T170 - FR, PR-500294	C. 31. c) (1) o.	Continuous Pilot Flame Monitor	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20	
Emissions Unit Group -**B2**-: B017, B022,	C. 34. b) (2) b.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
Emissions Unit Group -**B2**-: B017, B022,	C. 34. b) (2) e.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
Emissions Unit Group -**B2**-: B017, B022,	C. 34. f) (1) a.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
Emissions Unit Group -**B3**-: B030, B033,	C. 35. b) (2) a.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
Emissions Unit Group -**B3**-: B030, B033,	C. 35. b) (2) e.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	

Emission Unit(s)	Title V Permit Citation	Method Used to Determine Compliance	Continuous (C) or Intermittent (I) Compliance?	Those Documented within Excursion/Deviation Reports Submitted to Toledo Division of Environmental Services (Identify Date of Each Report)	Other - Explain the Nature, Duration, Cause of Excursion/Deviation, and Corrective Actions Taken
Emissions Unit Group -**B3**-: B030, B033,	C. 35. f) (1) I.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
Emissions Unit Group -**B4**-: B034, B035,	C. 36. b) (2) c.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 (B034 only) Third Quarter Deviation Report, submitted 10-30-20 (B034 only) Fourth Quarter Deviation Report, submitted 1-31-21	
Emissions Unit Group -**B4**-: B034, B035,	C. 36. f) (1) a.	Continuous Monitoring System (CEMS)	I	Second Quarter Deviation Report, submitted 7-30-20 (B034 only) Third Quarter Deviation Report, submitted 10-30-20 (B034 only) Fourth Quarter Deviation Report, submitted 1-31-21	
Emissions Unit Group -**P1**-P021 P022 P023 Alkyl Units	C. 37. b) (1) a.	Visual inspections and LDAR records.	I	Second Quarter Deviation Report, submitted 7-30-20 (P022 only)	
Emissions Unit Group -**P1**-P021 P022 P023 Alkyl Units	C. 37. b) (1) d.	Visual inspections and LDAR records.	I	Second Quarter Deviation Report, submitted 7-30-20 (P022 only)	
Emissions Unit Group -**P1**-P021 P022 P023 Alkyl Units	C. 37. b) (1) f.	Visual inspections and LDAR records.	I	Second Quarter Deviation Report, submitted 7-30-20 (P022 only)	
Emissions Unit Group -**P1**-P021 P022 P023 Alkyl Units	C. 37. b) (2) a.	Visual inspections and LDAR records.	I	Second Quarter Deviation Report, submitted 7-30-20 (P022 only)	

Emission Unit(s)	Title V Permit Citation	Method Used to Determine Compliance	Continuous (C) or Intermittent (I) Compliance?	Those Documented within Excursion/Deviation Reports Submitted to Toledo Division of Environmental Services (Identify Date of Each Report)	Other - Explain the Nature, Duration, Cause of Excursion/Deviation, and Corrective Actions Taken
Emissions Unit Group -**P1**-P021 P022 P023 **A**lky**l** Units	C. 37. b) (2) b.	Continuous Pilot Flame Monitor	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20	
Emissions Unit Group -**P1**-P021 P022 P023 **A**lky**l** Units	C. 37. b) (2) c.	Continuous Parameter Monitoring System (CPMSs)	I	Fourth Quarter Deviation Report, submitted 1-31-21 (P004 only)	
Emissions Unit Group -**P1**-P021 P022 P023 **A**lky**l** Units	C. 37. b) (2) e.	Continuous Pilot Flame Monitor	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
Emissions Unit Group -**P1**-P021 P022 P023 **A**lky**l** Units	C. 37. b) (2) g.	LDAR Monitoring & Record keeping	I	Second Quarter Deviation Report, submitted 7-30-20 (P022 only)	
Emissions Unit Group -**P2**-Hydrotreaters: P028,P029,	C. 38. b) (2) d.	Continuous Parameter Monitoring System (CPMSs)	I	Fourth Quarter Deviation Report, submitted 1-31-21	
Emissions Unit Group -**P2**-Hydrotreaters: P028,P029,	C. 38. b) (2) e.	Continuous Pilot Flame Monitor	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20	
Emissions Unit Group -**P3**-: P041,P043	C.39.b)(1)d.	LDAR Monitoring and Record Keeping Program	I	Third Quarter Deviation Report, submitted 10-30-20 (P041 only)	

Emission Unit(s)	Title V Permit Citation	Method Used to Determine Compliance	Continuous (C) or Intermittent (I) Compliance?	Those Documented within Excursion/Deviation Reports Submitted to Toledo Division of Environmental Services (Identify Date of Each Report)	Other - Explain the Nature, Duration, Cause of Excursion/Deviation, and Corrective Actions Taken
Emissions Unit Group -**P3**-: P041,P043	C. 39. b) (1) g.	LDAR Monitoring and Record Keeping Program	I	Third Quarter Deviation Report, submitted 10-30-20 (P041 only)	
Emissions Unit Group -**P3**-: P041,P043	C.39.b)(2)b.	Continuous Pilot Flame Monitor	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20	
Emissions Unit Group -**P3**-: P041,P043	C.39.b)(2)c.	LDAR Monitoring and Record Keeping Program	I	Third Quarter Deviation Report, submitted 10-30-20 (P041 only)	
Emissions Unit Group -**P3**-: P041,P043	C.39.b)(2)e.	Continuous Pilot Flame Monitor	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
Emissions Unit Group -**P3**-: P041,P043	C.39.b)(2)f.	LDAR Monitoring and Record Keeping Program	I	Third Quarter Deviation Report, submitted 10-30-20 (P041 only)	
Emissions Unit Group -**P3**-: P041,P043	C. 39. b) (2) g.	Continuous Parameter Monitoring System (CPMSs)	I	Fourth Quarter Deviation Report, submitted 1-31-21	
Emissions Unit Group -**P4**- Hydrocarbon Flare Systems: P003, P004	C. 40. b) (1) b.	Continuous Parameter Monitoring System (CPMSs)	I	Third Quarter Deviation Report, submitted 10-30-20 (P003 only)	

Emission Unit(s)	Title V Permit Citation	Method Used to Determine Compliance	Continuous (C) or Intermittent (I) Compliance?	Those Documented within Excursion/Deviation Reports Submitted to Toledo Division of Environmental Services (Identify Date of Each Report)	Other - Explain the Nature, Duration, Cause of Excursion/Deviation, and Corrective Actions Taken
Emissions Unit Group -**P4**- Hydrocarbon Flare Systems: P003, P004	C. 40. b) (1) c.	Continuous Pilot Flame Monitor	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 (P003 only) Fourth Quarter Deviation Report, submitted 1-31-21 (P004 only)	
Emissions Unit Group -**P4**- Hydrocarbon Flare Systems: P003, P004	C. 40. b) (1) d.	Continuous Pilot Flame Monitor	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 (P003 only)	
Emissions Unit Group -**P4**- Hydrocarbon Flare Systems: P003, P004	C. 40. b) (1) e.	Continuous Parameter Monitoring System (CPMSs)	I	Third Quarter Deviation Report, submitted 10-30-20 (P003 only)	
Emissions Unit Group -**P4**- Hydrocarbon Flare Systems: P003, P004	C. 40. b) (1) g.	Continuous Pilot Flame Monitor	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 (P003 only)	
Emissions Unit Group -**P4**- Hydrocarbon Flare Systems: P003, P004	C. 40. b) (1) h.	Continuous Pilot Flame Monitor	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 (P003 only)	

Emission Unit(s)	Title V Permit Citation	Method Used to Determine Compliance	Continuous (C) or Intermittent (I) Compliance?	Those Documented within Excursion/Deviation Reports Submitted to Toledo Division of Environmental Services (Identify Date of Each Report)	Other - Explain the Nature, Duration, Cause of Excursion/Deviation, and Corrective Actions Taken
Emissions Unit Group -**P4**- Hydrocarbon Flare Systems: P003, P004	C. 40. b) (1) i.	Continuous Parameter Monitoring System (CPMSs)	I	Third Quarter Deviation Report, submitted 10-30-20 (P003 only)	
Emissions Unit Group -**P4**- Hydrocarbon Flare Systems: P003, P004	C. 40. b) (2) a.	Continuous Parameter Monitoring System (CPMSs)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20	
Emissions Unit Group -**P4**- Hydrocarbon Flare Systems: P003, P004	C. 40. b) (2) d.	Continuous Monitoring System (CEMS)	I	Fourth Quarter Deviation Report, submitted 1-31-21	
Emissions Unit Group -**P4**- Hydrocarbon Flare Systems: P003, P004	C. 40. c) (1) c.	Continuous Parameter Monitoring System (CPMSs)	I	Third Quarter Deviation Report, submitted 10-30-20 (P003 only)	
Emissions Unit Group -**P4**- Hydrocarbon Flare Systems: P003, P004	C. 40. c) (1) f.	Continuous Pilot Flame Monitor	I	First Quarter Deviation Report, submitted 4-30-20 (revised 7-30-20) Second Quarter Deviation Report, submitted 7-30-20	

Emission Unit(s)	Title V Permit Citation	Method Used to Determine Compliance	Continuous (C) or Intermittent (I) Compliance?	Those Documented within Excursion/Deviation Reports Submitted to Toledo Division of Environmental Services (Identify Date of Each Report)	Other - Explain the Nature, Duration, Cause of Excursion/Deviation, and Corrective Actions Taken
Emissions Unit Group -**P4**- Hydrocarbon Flare Systems: P003, P004	C. 40. c) (1) h.	Continuous Parameter Monitoring System (CPMSs)	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20	
Emissions Unit Group -**P4**- Hydrocarbon Flare Systems: P003, P004	C. 40. c) (3) a.	Continuous Parameter Monitoring System (CPMSs)	I	Third Quarter Deviation Report, submitted 10-30-20 (P003 only)	
Emissions Unit Group -**P4**- Hydrocarbon Flare Systems: P003, P004	C. 40. d) (2)	Continuous Mass Flow Meter	I	Second Quarter Deviation Report, submitted 7-30-20 Third Quarter Deviation Report, submitted 10-30-20 Fourth Quarter Deviation Report, submitted 1-31-21	
Emissions Unit Group -**P7**-P044 P045 Emergency Diesel Engines #1 and #2	C. 43. d) (2)	Refinery Records	I	Fourth Quarter Deviation Report, submitted 1-31-21	

Emission Unit(s)	Title V Permit Citation	Method Used to Determine Compliance	Continuous (C) or Intermittent (I) Compliance?	Those Documented within Excursion/Deviation Reports Submitted to Toledo Division of Environmental Services (Identify Date of Each Report)	Other - Explain the Nature, Duration, Cause of Excursion/Deviation, and Corrective Actions Taken
Emissions Unit Group -T7 EFR: only tanks T020, T027, T028, T029, T030, T031, T033, T034, T036, T038, T039, T060, T097	C. 50. b) (1) c.	Reocrds review and compliance tasking software	I	Not reported in 2020 Title V Deviation Reports	BPH conducted an internal audit on the new applicable requirements from the Refinery Sector Rule update to 40 CFR 63 Subpart CC. Specifically, the requirements of 40 CFR 63 Subpart WW for Group 1 EFR referenced from 40 CFR 63.646. The findings from this audit were finalized in 1Q2021. It was discovered that while BPH was completing all of the 5-year inspection requirements, there was an additional 10-year inspection requirement for the floating roof deck, deck fittings or rim seals that had not been completed. This was a new requirement that was inadvertently missed. The inspections were completed by the end of 1Q2021. The details of this deviation are included in the cover letter of this 2020 ACC Report.

Appendix E: Status of Lead Abatement SEP Reports

Attached is the SEP Progress report from the Lucas County Health Department. The report(s) includes a summary of the progress in satisfying its obligations in connection with the Lead Abatement SEP under Section VIII including, at a minimum, a narrative description of activities undertaken; the status of any construction or compliance measures, including the completion of any milestones; and a summary of costs incurred since the previous report.

SEMI-ANNUAL REPORT

Report Date	Project Name	Prepared by
29 July 2021	BP Husky Toledo Refinery Lead Paint Abatement Supplemental Environmental Project	Vaughn A. Jackson David Welch

Toledo-Lucas County Health Department
635 North Erie Toledo, Ohio 43604
Phone: 419-213-4100
Fax: 419-213-4141

Introduction

On March 25, 2020, the United States District Court for the Northern District of Ohio entered a Clean Air Act Consent Decree among the United States, State of Ohio, and BP-Husky Refining LLC ("BPH") and BP Products North America Inc. ("BP")- the owner and operator, respectively, of the BP-Husky Toledo Refinery located in Oregon, Ohio. The Consent Decree requires the owner and operator of the refinery to fund and complete supplemental Environmental project ("SEP"), to abate certain residential and commercial structure from hazard imposed by lead-based paint.

Toledo-Lucas County Health Department ("TLCHD") entered into a services agreement with BP wherein it agreed to perform the project for the refinery with funds escrowed by BP. TLCHD plans to perform abatement on 40 to 80 homes before the project is complete.

The Consent Decree requires BP and BPH to submit a semi-annual report to EPA on February 15 and August 15 each year. Paragraph 64.a.5 of the Consent Decree requires the semi-annual report include "[a] discussion of Defendants' progress is satisfying its obligations in connection with the Lead Abatement SEP under Section VIII including, at a minimum, a narrative description of activities undertaken, the status of any construction or compliance measures, including the completion of any milestones, and a summary of costs incurred since the previous report"

TLCHD prepared this semi-annual report pursuant to the terms of its services agreement with BP to assist BP and BPH in the meeting the semi-annual reporting requirements imposed by the Consent Decree.

Project Summary

TLCHD will perform abatements on approximately 40 to 80 qualified homes during the term

Status Summary

TLCHD has partnered with the City of Toledo (COT) Department of Neighborhoods, with Memorandums of Understanding currently in place to immediately begin work on lead remediation projects. The COT has four homes in contract to utilize the BP Husky Funds. The TLCHD has sent out intake applications requesting W-2's and other income sources. Two applications have been received with completed income sources. We have been promised by homeowners that more will be coming soon. Please be aware that there is still a shortage in NW Ohio and Michigan of qualified Lead Abatement Contractors. TLCHD and the COT have partnered together to train and employ a large contingency of lead

abatement contractors and workers in the coming months. With the rise of cases due to the Delta Variant of the Covid-19 virus, the TLCHD has had to prioritize its efforts in combating this new strain of the virus. The Global Pandemic is slowing our progress but we are continuing to move forward with this project.

Project Overview

Address	Zip Code	% completed	Estimated Completion date	Notes
253 Knower	43609	0	In contract	COT
831 Woodland	43607	0	In contract	COT
1665 W. Bancroft	43606	0	In contract	COT
3214 Maplewood	43610	0	In contract	COT
1365 Elmwood	43606	0	In review	TLCHD
556 Valleywood	43605	0	In review	TLCHD

Budget Overview

Address	Estimated Cost	Spent	Status	Notes
253 Knower	$25,595	0	NA	
831 Woodland	$19,757	0	NA	
1665 W. Bancroft	$35,289	0	NA	
3214 Maplewood	$29,996	0	NA	
1365 Elmwood	NA	NA	NA	Working on estimates
556 Valleywood	$5,350	0	NA	Working on contracts

Status:
C=Completed

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

David Welch
Director of Environmental Health
Toledo-Lucas County Health Department

Appendix F: Quarterly CEMS Reports

Copies of the reports listed below are attached and include a calculation of the total amount of time per calendar quarter that the CEMS is not in continuous operation ("downtime"), expressed as a percentage of the operating time of the process unit(s) being monitored, and a listing of the times and dates for the periods when the CEMS was not in continuous operation, with an explanation of the cause(s) of the downtime and an explanation and a description of any corrective action(s) taken.

Table F.1: Copies of Quarterly CEMS Reports

Report Name	Report Period	Date Submitted
1Q2021 Quarterly CMS Summary & Data Assessment Report	1Q2021	5/26/2021*
2Q2021 Quarterly CMS Summary & Data Assessment Report	2Q2021	7/29/2021

*Original report submitted 4/27/2021 but was revised due to a clerical error in which the West Alstom Boiler was incorrectly called the East Alstom Boiler on its NOx Summary Table.

26-May-21

City of Toledo
Division of Environmental Services
348 S. Erie Street
Toledo, OH 43604
Attn.: Peter Park

Des Gillen
President
BP-Husky Refining LLC
4001 Cedar Point Road
Oregon, OH 43616
P 567.698.4529
des.gillen@bp.com

RE: CMS Summary & Data Assessment Report – 1st Quarter 2021

Dear Sir or Madam:

Attached is the revised CMS Summary Report and Data Assessment Report for BP-Husky Refining LLC for the period of January 1, 2021 through March 31, 2021. This report is being resubmitted due to an error on the West Alstom Boiler NOx summary table where the boiler was incorrectly called out as the East Alstom Boiler on the original submitted report. The source has been corrected on the document and the report is being resubmitted in its entirety.

CMS Summary Report (Attachment A)
A complete list of emissions units and pollutants monitored are in Table 1; Summary Reports are included in Attachment A. Excess Emissions and Monitoring Systems Performance Report is not required under 40 CFR 60.7(d) if the total duration of excess emissions is less than 1% and the CMS downtime is less than 5% of the total operating time for the quarter. Unless where noted in Table 1, these criteria were met for the units listed. All future reports will have downtime and excess emissions for gases reported in hours as described in 40 CFR 60.7(d).

Table 1. Emission Units and Pollutants Monitored

Location/Emission Unit	Parameter	Quarter 1 2021 Downtime (% unit operating time)	Notes
TIU Fuel Gas Mix Drum	H_2S in Fuel Gas		
- B015 - Crude 1 Furnace		0.00	
- B017 - Coker 2 Furnace		0.00	
- B019 - Crude Vac 2 Furnace		0.00	
- B022 - Naphtha Treater Furnace		0.00	
- B029 - DHT A-Train Furnace		0.00	
- B030 - BGOT Furnace		0.00	
- B031 - Vac 1 Furnace		0.00	
- B032 - Coker 3 Furnace		0.00	
- B033 - East B-GOT Furnace		0.00	
- B034 – East Alstom Boiler		0.00	
- B035 – West Alstom Boiler		0.00	
- P007 - FCC/CO Boiler		0.00	

Location/Emission Unit	Parameter	Quarter 1 2021 Downtime (% unit operating time)	
TIU Fuel Gas Mix Drum	Total Sulfur in Fuel Gas		
- B015 - Crude 1 Furnace		1.16	
- B019 - Crude Vac 2 Furnace		1.16	
- B022 - Naphtha Treater Furnace		1.16	
- B029 - DHT A-Train Furnace		1.16	
- B030 - BGOT Furnace		1.18	
- B031 - Vac 1 Furnace		1.16	
- B032 - Coker 3 Furnace		1.35	
- B033 - East B-GOT Furnace		1.16	
- B034/B035 – East & West Alstom Boilers		1.16	
East Side Fuel Gas Mix Drum	H_2S in Fuel Gas		
- B008 - Iso 2 Feed Heater		1.16	
- B009 - Iso 2 Stabilizer Reboiler		1.16	
- B010 - Iso 2 Splitter Reboiler		1.16	
B036 - Reformer 3 Furnace	H_2S	0.00	
P003 - East Flare (see note A)	H_2S	1.25	EE >1%
P003 - East Flare	Total Sulfur	0.00	
P004 – West Flare Vent Gas (see note A)	H_2S	0.14	
P004 – West Flare “C-Valve” Vent Gas	H_2S	0.00	
P004 – West Flare Vent Gas	Total Sulfur	1.62	
P004 – West Flare “C-Valve” Vent Gas	Total Sulfur	1.16	
B036 – Reformer 3 Furnace	NOx	6.21	Downtime > 5%
P007 – FCCU/CO Boiler Bypass (see note B)	CO	0.00	
P007 – FCCU/CO Boiler Bypass (see note B)	NOx	0.00	
P007 – FCCU/CO Boiler Bypass (see note B)	SO_2	0.00	
P007 – CO Boiler Exhaust	CO	0.05	
P007 – CO Boiler Exhaust	NOx	0.05	
P007 – CO Boiler Exhaust	SO_2	0.05	
P009 - Sulfur Recovery Unit with #1	SO_2	2.61	
P037 - Sulfur Recovery Units #2 & #3	SO_2	1.86	
B034 – East Alstom Boiler (see note C)	NOx	0.05	
B035 – West Alstom Boiler (see note C)	NOx	0.05	Only Fired Natural Gas

Note A: P003/P004 East & West Flare
The attached H_2S tables identify all emissions in excess of the Subpart Ja H_2S limit of 162 ppm_v on a 3-hour rolling average. If an event did not occur for 3 consecutive hours, then it does not meet the 3-hour averaging requirement and therefore is not considered excess emissions. If a 3-hour event exceeds the 100,000 ppm_v span limit of the H_2S CMS, then the Total Sulfur analyzer data was used for the H_2S value.

Note B: P007 – FCCU/CO Boiler Bypass
The purpose of these CEMS are to continuously monitor the listed (CO, NOx, & SO_2) emissions from the FCCU Regenerator exhaust in the event of a CO Boiler bypass while there is feed to the FCCU. Otherwise, compliance with the listed limits for the FCCU is determined from continuous emissions monitoring of the CO Boiler Exhaust stack. Although this source is not subject to 40 CFR Part 60, Section C.12.(d)(7) of P0104782 (as set forth by Permits-to-Install 04-01290 and P0105902) requires monitoring per 40 CFR Part 60.11. As

noted in Section C.12.(e)(4) of P0104782, the refinery has opted to follow the reporting requirements under 40 CFR 60.7. 40 CFR 60.7(c) requires the submission of an Excess Emissions and Monitoring Systems Performance Report and Summary Report Form.

Note C: B034/B035 East & West Alstom Boiler
The attached data tables include supplemental reporting for NOx CEMS records required by 40CFR49b(i).

On March 30, 2021 it was discovered that there was a torn diaphragm on the Reformer 3 sample pump. This small tear diluted the sample going to the O_2 and NOx analyzers with ambient air. It was determined that the diaphragm had been leaking since March 24, 2021 and contributed to the REF3 CEMs being down greater than 5% of the quarter.

Details of all downtime or excess emission incidents are provided in the summary tables in Attachment A.

Data Assessment Report (Attachment B)

In accordance with the terms and conditions of their permits, Attachment B includes the Continuous Emission Monitor (CEM) Data Assessment Report (DAR) for this quarter. Table 2 below is a summary of Cylinder Gas Audits conducted this quarter. Where noted in Table 2, Relative Accuracy Test Audits (RATAs) were conducted this quarter; these reports were submitted previously via Air Services.

Table 2. Cylinder Gas Audit Summary

Location/Emission Unit	Parameter	Notes
East Side Fuel Gas Mix Drum (B008, B009, B010)	H2S	RATA – No CGA
TIU Fuel Gas Mix Drum (B015, B017, B019, B022, B029, B030, B031, B032, B033, B034, B035, P007)	H_2S	RATA – No CGA
B036 - Reformer 3 Heater H2S CMS	H_2S	RATA – No CGA
P003 - East Flare	H_2S	RATA – No CGA
P004 - West Flare	H_2S	RATA – No CGA
P003 - East Flare (low & high ranges)	Total Sulfur	
P004 - West Flare (low & high ranges)	Total Sulfur	
TIU Fuel Gas Mix Drum (B015, B017, B019, B022, B029, B030, B031, B032, B033, B034, B035, P007)	Total Sulfur	
B036 - Reformer 3 NOx/O2 CEMS	NOx, O_2	
B034 - East Alstom Boiler	NOx, O_2	
B035 - West Alstom Boiler	NOx, O_2	
P007 - FCCU/CO Boiler	SO_2, NOx, CO, O_2	
P007 - FCC Regen Line	SO_2, NOx, CO, CO_2, O_2	
P009 - SRU #1	SO_2, O_2	
P037 - SRU #2 & #3 (TRP SRU)	SO_2, O_2	

The DAR also includes out-of-control (OOC) times for the FCCU/CO Boiler CO CEMS, FCC Regen Line CO, O_2, & CO_2 CEMS, the SRU#1 SO_2 & O_2 CEMS, and the TRP SRU SO_2 & O_2 CEMS based on the OOC requirements defined by the MACT general requirements, 40 CFR Part 63.8(c)(7).

If you have any questions concerning this report, please contact Ashley Zapp (ashley.zapp@bp.com or 567-698-4410), or Cameron Loth (cameron.loth@bp.com or 567-698-4833).

Based on information and belief formed after reasonable inquiry, the statements and information in this report are true, accurate, and complete.

Sincerely,

DocuSigned by:
Des Gillen
90F20640AD13450...

Des Gillen
President - BP-Husky Refining LLC

Attachment A – CMS Summary Report
Attachment B – Data Assessment Report

Attachment A – CMS Summary Report

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 3/10/2021

Process Unit(s) Description: Crude 1 Furnace (0448020007B015)

Total Source Operating Time in Reporting Period[2]: 129,540 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 3/10/2021

Process Unit(s) Description: Coker 2 Furnace (0448020007B017)

Total Source Operating Time in Reporting Period[2]: 115,257 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 3/10/2021

Process Unit(s) Description: Crude Vac 2 Furnace (0448020007B019)

Total Source Operating Time in Reporting Period[2]: 129,540 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 3/10/2021

Process Unit(s) Description: Naphtha Treater Furnace (0448020007B022)

Total Source Operating Time in Reporting Period[2]: 129,540 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 3/10/2021

Process Unit(s) Description: DHT A-Train Furnace (0448020007B029)

Total Source Operating Time in Reporting Period[2]: 129,540 min (TIU fuel gas was combusted for 129,540 minutes and natural gas was combusted for 0 minutes for a total of 129,540 minutes this quarter)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 3/10/2021

Process Unit(s) Description: BGOT Furnace (0448020007B030)

Total Source Operating Time in Reporting Period[2]: 127,266 min (TIU fuel gas was combusted for 127,266 minutes and natural gas was combusted for 0 minutes for a total of 127,266 minutes this quarter)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 3/10/2021

Process Unit(s) Description: Vac 1 Furnace (0448020007B031)

Total Source Operating Time in Reporting Period[2]: 129,540 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 3/10/2021

Process Unit(s) Description: Coker 3 Furnace (0448020007B032)

Total Source Operating Time in Reporting Period[2]: 111,250 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 3/10/2021

Process Unit(s) Description: East BGOT Furnace (0448020007B033)

Total Source Operating Time in Reporting Period[2]: 129,535 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 3/10/2021

Process Unit(s) Description: East Alstom Boiler (0448020007B034)

Source Operating Time in Reporting Period[2]: 129,535 min (TIU fuel gas was combusted for 112,684 minutes and natural gas was combusted for 16,851 minutes for a total of 129,535 minutes this quarter)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assu s	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

The West Alstom Boiler combusted a combination of natural gas and TIU Mix Drum fuel gas this quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 3/10/2021

Process Unit(s) Description: West Alstom Boiler (0448020007B035)

Total Source Operating Time in Reporting Period[2]: 0 min (TIU fuel gas was combusted for 0 minutes and natural gas was combusted for 129,536 minutes for a total of 129,536 minutes this quarter)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

The West Alstom Boiler combusted a combination of natural gas and TIU Mix Drum fuel gas this quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 3/10/2021

Process Unit(s) Description: FCC/CO Boiler (0448020007P007)

Total Source Operating Time in Reporting Period[2]: 129,540 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - TIU MIX DRUM H2S CMS REPORT FOR 1ST QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
B015 - Crude 1 Furnace; **B019** - Crude 2 Furnace; **B022** - Naphtha Treater Furnace; **B029** - DHT A - Train Furnace **B030** - DHT B - Train Furnace; **B031** - Vac 1 Furnace; **B032** - Coker 3 Furnace **B033** - East BGOT Furnace; **B034** - East Alstom Boiler; **B035** - West Alstom Boiler; **P007**- FCC/CO Boiler	Yes	No	Continuous Monitoring System	No downtime or excess emissions during this reporting quarter.							

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 34.53 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 1/25/2021

Process Unit(s) Description: Crude 1 Furnace (0448020007B015)

Total Source Operating Time in Reporting Period[2]: 129,540 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	1500
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	1500
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	1.16

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 21.02 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 1/25/2021

Process Unit(s) Description: Crude Vac 2 Furnace (0448020007B019)

Total Source Operating Time in Reporting Period[2]: 129,540 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	1500
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	1500
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	1.16

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 6.45 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 1/25/2021

Process Unit(s) Description: Naphtha Treater Furnace (0448020007B022)

Total Source Operating Time in Reporting Period[2]: 129,540 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	1500
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	1500
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	1.16

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 2.32 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 1/25/2021

Process Unit(s) Description: DHT A-Train Furnace (0448020007B029)

Total Source Operating Time in Reporting Period[2]: 129,540 min (TIU fuel gas was combusted for 129,540 minutes and natural gas was combusted for 0 minutes for a total of 129,540 minutes this quarter)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	1500
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	1500
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	1.16

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 3.86 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 1/25/2021

Process Unit(s) Description: BGOT Furnace (0448020007B030)

Total Source Operating Time in Reporting Period[2]: 127,266 min (TIU fuel gas was combusted for 127,266 minutes and natural gas was combusted for 0 minutes for a total of 127,266 minutes this quarter)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	1500
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	1500
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	1.18

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 11.62 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 1/25/2021

Process Unit(s) Description: Vac 1 Furnace (0448020007B031)

Total Source Operating Time in Reporting Period[2]: 129,540 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	1500
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	1500
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	1.16

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 20.46 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 1/25/2021

Process Unit(s) Description: Coker 3 Furnace (0448020007B032)

Total Source Operating Time in Reporting Period[2]: 111,250 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	1500
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	1500
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	1.35

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 3.86 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 1/25/2021

Process Unit(s) Description: East BGOT Furnace (0448020007B033)

Total Source Operating Time in Reporting Period[2]: 129,535 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	1500
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	1500
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	1.16

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 3.86 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 1/25/2021

Process Unit(s) Description: East Alstom Boiler (0448020007B034) and West Alstom Boiler (0448020007B035)

Source Operating Time in Reporting Period[2]: 129,536 min (TIU fuel gas was combusted for 112,684 minutes in at least one of the Alstom Boilers for the quarter. Natural gas was combusted for 16,852 minutes in both Alstom Boilers for the quarter.)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	1500
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assu s	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	1500
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	1.16

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

The East Alstom Boiler combusted only natural gas this quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - TIU MIX DRUM TS CMS REPORT FOR 1ST QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
				DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
	Quarterly	Semi-Annual		Date / Time Start	Date / Time End						
B015 - Crude 1 Furnace; **B022** - Naphtha Treater Furnace; **B029** - DHT A - Train Furnace **B030** - DHT B - Train Furnace; **B031** - Vac 1 Furnace; **B032** - Coker 3 Furnace **B033** - East BGOT Furnace; **B034/B035** - East and West Alstom Boilers; **P007**- FCC/CO Boiler	Yes	No	Continuous Monitoring System	2/8/2021 at 08:00 hours	2/9/2021 at 09:00 hours	CEMS out-of-control time for 1500 minutes	Analyzer failed daily validation.	Recalibrated and returned the analyzer to service.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30028039490020

Date of Latest CMS Certification or Audit: 3/18/2021

Process Unit(s) Description: Iso 2 Feed Heater (0448020007B008)

Total Source Operating Time in Reporting Period[2]: 129,540 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	1500
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	1500
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	1.16

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30028039490020

Date of Latest CMS Certification or Audit: 3/18/2021

Process Unit(s) Description: Iso 2 Stabilizer Reboiler (0448020007B009)

Total Source Operating Time in Reporting Period[2]: 129,540 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	1500
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	1500
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	1.16

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30028039490020

Date of Latest CMS Certification or Audit: 3/18/2021

Process Unit(s) Description: Iso 2 Splitter Reboiler (0448020007B010)

Total Source Operating Time in Reporting Period[2]: 129,540 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	1500
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	1500
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	1.16

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F29640AD18450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - EAST SIDE MIX DRUM H2S CMS REPORT FOR 1ST QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
				DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
	Quarterly	Semi-Annual		Date / Time Start	Date / Time End						
B008 - Iso 2 Feed Heater **B009** - Iso 2 Stabilizer Reboiler **B010** - Iso 2 Splitter Reboiler	Yes	No	Continuous Monitoring System	2/15/2021 at 08:00 hours	2/16/2021 at 09:00 hours	CEMS out-of-control time for 1500 minutes	Analyzer failed daily validation.	Recalibrated and returned the analyzer to service.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30028039490020

Date of Latest CMS Certification or Audit: 3/18/2021

Process Unit(s) Description: Reformer 3 Furnace (0448020007B036)

Total Source Operating Time in Reporting Period[2]: 18,720 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 162 ppmv H_2S in fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30029994471080

Date of Latest CMS Certification or Audit: 3/11/2021

Process Unit(s) Description: Reformer 3 Furnace (0448020007B036)

Total Source Operating Time in Reporting Period[2]: 110,820 min (Reformer 3 fuel gas was combusted for 110,820 minutes and natural gas was combusted for 0 minutes for a total of 110,820 minutes this quarter)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

The Reformer 3 Furnace combusted a combination of Reformer 3 fuel gas and natural gas this quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 60 ppmv H_2S in fuel gas on a 365-day rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30029994471080

Date of Latest CMS Certification or Audit: 3/11/2021

Process Unit(s) Description: Reformer 3 Furnace (0448020007B036)

Total Source Operating Time in Reporting Period[2]: 129,540 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.0

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

The Reformer 3 Furnace combusted a combination of Reformer 3 fuel gas and natural gas this quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - REFORMER 3 FURNACE H2S CMS REPORT FOR 1ST

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
B036 - Reformer 3 Furnace	Yes	No	Continuous Monitoring System	No downtime or excess emissions during this reporting quarter.							

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 162 ppmv H_2S in fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30050531960100

Date of Latest CMS Certification or Audit: 3/17/2021

Process Unit(s) Description: East Flare (0448020007P003)

Total Source Operating Time in Reporting Period[2]: 129,540 minutes

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	1620
c. Process Problems	2760	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	2,760	2. Total CMS Downtime	1,620
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	2.13	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	1.25

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - EAST FLARE H2S CMS REPORT FOR 1ST QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
				DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
	Quarterly	Semi-Annual		Date / Time Start	Date / Time End						
P003 - East Flare	No	Yes	Continuous Monitoring System	2/9/2021 at 07:00 hours	2/10/2021 at 10:00 hours	CEMS out-of-control time for 1620 minutes	Analyzer failed daily validation due to vent line freeze-up.	Cleared line, recalibrated the analyzer and returned to service.	No	N/A	N/A
P003 - East Flare	Yes	No	Continuous Monitoring System	1/30/2021 at 07:00 hours	1/30/2021 at 19:00 hours	CEMS excess emissions for 720 minutes	PSV lifted to the flare due to a frozen pilot line.	Applied steam to the pilot line and re-installed insulation box around the PSV.	No	N/A	N/A
P003 - East Flare	Yes	No	Continuous Monitoring System	3/10/2021 at 08:00 hours	3/10/2021 at 11:00 hours	CEMS excess emissions for 180 minutes	ISO2 Recycle Compressor level tripped on a false alarm. The unit relieved to the flare to prevent overpressure.	Purged the ISO2 reactor to the flare per procedure and safely restarted the compressor.	No	N/A	N/A
P003 - East Flare	Yes	No	Continuous Monitoring System	3/10/2021 at 12:00 hours	3/11/2021 at 19:00 hours	CEMS excess emissions for 1860 minutes	ISO2 Recycle Compressor level tripped on a false alarm. The unit relieved to the flare to prevent overpressure.	Purged the ISO2 reactor to the flare per procedure and safely restarted the compressor.	No	N/A	N/A

Excess Emission and Monitoring System Performance Report
East Flare H2S CEMS Report (Source # P003)
1Q 2021

In accordance with the applicable PTIs for this source, written reports of excess emissions shall include the following information:

1. The magnitude of excess emissions computed in accordance with §60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

During the 1st quarter of 2021, the East Flare operated for a total of 2,159 hours. There were 3 periods of excess emissions for a total of 46 hours, which accounted for 2.13% of the source's operating time.

The first period of excess emissions was quantified as 7,687 ppm above the permitted 162-ppm 3-hour, rolling average of H2S, resulting in a total of 171 lbs of excess SO_2 released. Date and time of commencement and completion of this period of excess emissions are as follows:

- 1/30/2021 at 7:00 hours to 1/30/2021 at 19:00 hours

The second period of excess emissions was quantified as 11 ppm above the permitted 162-ppm 3-hour, rolling average of H2S, resulting in 2 lbs of excess SO_2 released. Date and time of commencement and completion of this period of excess emissions are as follows:

- 3/10/2021 at 8:00 hours to 3/10/2021 at 11:00 hours

The third period of excess emissions was quantified as 263 ppm above the permitted 162-ppm 3-hour, rolling average of H2S, resulting in 221 lbs of excess SO_2 released. Date and time of commencement and completion of this period of excess emissions are as follows:

- 3/10/2021 at 12:00 hours to 3/11/2021 at 19:00 hours

2. Specific identification of each period of excess emissions that occurs during start-ups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

The first period of excess emissions was when a pilot sense line froze causing the PSV to lift. When the sense line on this PSV was frozen, it resulted in pressure being released on the back of the seal and caused the valve to open. The PSV was wrapped with temporary insulation. The PSV lift occurred intermittently for several hours, until the PSV reseated and streams were being fully recovered by the flare gas recovery system.

The second and third periods of excess emissions were a result of the ISO 2nd stage Recycle Compressor tripping due to a false high-level alarm. The trip of the compressor resulted in an emergency shutdown of the unit. Flaring continued until the unit was shut down and all streams were being fully recovered by the flare gas recovery system.

3. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

There was one period of downtime of downtime for the quarter while the source was in operation.

- 2/9/2021 at 7:00 hours to 2/10/2021 at 10:00 hours

The analyzer failed its daily validation due to a vent line freeze up. The vent line was cleared, the analyzer was recalibrated and returned to service.

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: NA - Analyzer used to calculate SO_2 emissions

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-10430115

Date of Latest CMS Certification or Audit: TS Low: 1/20/2021; TS High: 1/20/2021

Process Unit(s) Description: East Flare (0448020007P003)

Total Source Operating Time in Reporting Period[2]: 129,540 minutes

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	NA	a. Monitor equipment malfunctions	0
b. Control equipment problems	NA	b. Non-monitor equipment malfunctions	0
c. Process Problems	NA	c. Quality assurance calibration	0
d. Other known causes	NA	d. Other known causes	0
e. Unknown causes	NA	e. Unknown causes	0
2. Total duration of excess emissions	NA	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	NA	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - EAST FLARE TS CMS REPORT FOR 1ST QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
				DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
	Quarterly	Semi-Annual		Date / Time Start	Date / Time End						
P003 - East Flare	No	Yes	Continuous Monitoring System	No downtime or excess emissions during this reporting quarter.							

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 162 ppmv H_2S in fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30050531960400

Date of Latest CMS Certification or Audit: 3/9/2021

Process Unit(s) Description: West Flare Vent Gas (0448020007P004)

Total Source Operating Time in Reporting Period[2]: 129,540 minutes

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	420	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	180
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	420	2. Total CMS Downtime	180
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.32	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.14

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 162 ppmv H_2S in fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 3/10/2021

Process Unit(s) Description: West Flare C Valve (0448020007P004)

Total Source Operating Time in Reporting Period[2]: 129,540 minutes

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	NA	a. Monitor equipment malfunctions	0
b. Control equipment problems	NA	b. Non-monitor equipment malfunctions	0
c. Process Problems	NA	c. Quality assurance calibration	0
d. Other known causes	NA	d. Other known causes	0
e. Unknown causes	NA	e. Unknown causes	0
2. Total duration of excess emissions	NA	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	NA[4]	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

[4] Excess emissions are reported in the West Flare Vent Gas section, and are not included in this section to avoid double counting.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - WEST FLARE H2S CMS REPORT FOR 1ST QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P004 - West Flare	No	Yes	Continuous Monitoring System	2/22/2021 at 09:00 hours	2/22/2021 at 12:00 hours	CEMS downtime for 180 minutes	Rebuilt sample valve due to analyzer drift.	Completed the rebuild, recalibrated the analyzer and returned to service.	No	N/A	N/A
P004 - West Flare	Yes	No	Continuous Monitoring System	3/9/2021 at 22:00 hours	3/10/2021 at 05:00 hours	CEMS excess emissions for 420 minutes	ISO2 Recycle Compressor level tripped on a false alarm. The unit relieved to the flare to prevent overpressure.	Purged the ISO2 reactor to the flare per procedure and safely restarted the compressor.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: NA - Analyzer used to calculate SO2 emissions

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-10440115

Date of Latest CMS Certification or Audit: TS Low: 1/22/2021; TS High: 1/22/2021

Process Unit(s) Description: West Flare Vent Gas (0448020007P004)

Total Source Operating Time in Reporting Period[2]: 129,540 minutes

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	NA	a. Monitor equipment malfunctions	1,560
b. Control equipment problems	NA	b. Non-monitor equipment malfunctions	0
c. Process Problems	NA	c. Quality assurance calibration	0
d. Other known causes	NA	d. Other known causes	540
e. Unknown causes	NA	e. Unknown causes	0
2. Total duration of excess emissions	NA	2. Total CEMS Downtime	2,100
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	NA	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	1.62

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: NA - Analyzer used to calculate SO2 emissions

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 1/25/2021

Process Unit(s) Description: West Flare C Valve (0448020007P004)

Total Source Operating Time in Reporting Period[2]: 129,540 minutes

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	NA	a. Monitor equipment malfunctions	1500
b. Control equipment problems	NA	b. Non-monitor equipment malfunctions	0
c. Process Problems	NA	c. Quality assurance calibration	0
d. Other known causes	NA	d. Other known causes	0
e. Unknown causes	NA	e. Unknown causes	0
2. Total duration of excess emissions	NA	2. Total CEMS Downtime	1,500
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	NA	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	1.16

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - WEST FLARE TS CMS REPORT FOR 1ST QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
				DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
	Quarterly	Semi-Annual		Date / Time Start	Date / Time End						
P004 - West Flare	Yes	No	Continuous Monitoring System	2/18/2021 at 08:00 hours	2/18/2021 at 10:00 hours	CEMS downtime for 120 minutes	Recalibrated for drift.	Returned the analyzer to service.	No	N/A	N/A
P004 - West Flare	Yes	No	Continuous Monitoring System	3/2/2021 at 08:00 hours	3/3/2021 at 10:00 hours	CEMS out-of-control time for 1560 minutes	Analyzer failed daily validation.	Replaced pyrolizer and oven assembly, recalibrated and returned the analyzer to service.	No	N/A	N/A
P004 - West Flare	Yes	No	Continuous Monitoring System	3/4/2021 at 08:00 hours	3/4/2021 at 15:00 hours	CEMS downtime for 420 minutes	Analyzer was drifting.	Replaced sample valve, recalibrated and reutnred the analyzer to service.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: NOx

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 40 ppm_{vd} (30-day rolling average)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2

Date of Latest CEMS Certification or Audit: 1/12/2021

Process Unit(s) Description: Reformer 3 Furnace (0448020007B036)

Total Source Operating Time in Reporting Period[2]: 129,540 min

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	8040
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	8040
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	6.21

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CEMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - REFORMER 3 FURNACE NOx CEMS REPORT FOR 1ST QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
B036 - Reformer 3 Furnace	Yes	No	Continuous Emission Monitoring System (CEMS)	3/24/2021 at 23:00 hours	3/30/2021 at 13:00 hours	CEMS downtime for 8040 minutes	A torn diaphram on the sample pump diluted the sample going to the O2 and Nox analyzers with ambient air.	Repaired the pump, recalibrated the analyzer and returned to service.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: CO

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 500 ppmv CO, db, 1-hr average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB URAS 14, SN: 3.240684.3

Date of Latest CEMS Certification or Audit: 1/14/2021

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 0 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes. Minutes of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.
Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC REGEN VENT CO CEMS REPORT 1ST QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
				DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
	Quarterly	Semi-Annual		Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	Bypass Stack not in operation during the quarter, therefore no excess emissions or part 60 CEMS downtime to report.							

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: NOx

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 58.1 ppmv NOx db @ 0% O2 (365-day rolling avg)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240682.3

Date of Latest CEMS Certification or Audit: 1/14/2021

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 0 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes. Minutes of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: NOx

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 93.4 ppmv NOx db @ 0% O2 (7-day rolling avg)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240682.3

Date of Latest CEMS Certification or Audit: 1/14/2021

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 0 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes. Minutes of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC REGEN VENT NOx CEMS REPORT 1ST QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
				DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
	Quarterly	Semi-Annual		Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	Bypass Stack not in operation during the quarter, therefore no excess emissions or part 60 CEMS downtime to report.							

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 260 ppmvd SO2 at 0% excess O2 as a rolling 7-day average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240685.3

Date of Latest CEMS Certification or Audit: 1/14/2021

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 0 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes. Minutes of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 160 ppmvd SO2 at 0% excess O2 as a rolling 365-day average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240685.3

Date of Latest CEMS Certification or Audit: 1/14/2021

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 0 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes. Minutes of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 1,020 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240685.3

Date of Latest CEMS Certification or Audit: 1/14/2021

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 0 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes. Minutes of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.92 lb SO2 per 1000 lb of fresh feed

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240685.3

Date of Latest CEMS Certification or Audit: 1/14/2021

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 0 min

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes. Minutes of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC REGEN VENT SO2 CEMS REPORT 1ST QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
				DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
	Quarterly	Semi-Annual		Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	Bypass Stack not in operation during the quarter, therefore no excess emissions or part 60 CEMS downtime to report.							

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: CO

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 500 ppmv CO, db, 1-hr average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB URAS 26, SN: 3.347698.3

Date of Latest CEMS Certification or Audit: 1/12/2021

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 129,540 min

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	60
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	60
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.05

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC/CO BOILER CO CEMS REPORT 1ST QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	1/12/2021 at 13:00 hours	1/12/2021 at 14:00 hours	CEMS downtime for 60 minutes	Cylinder Gas Audit (CGA).	Completed and passed CGA, recalibrated the analyzer and returned to service.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: NOx

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 93.4 ppmv NOx db @ 0% O2 (7-day rolling avg)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 1/12/2021

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 129,540 min

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	60
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	60
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.05

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: NOx

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 58.1 ppmv NOx db @ 0% O2 (365-day rolling avg)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 1/12/2021

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 129,540 min

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	60
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	60
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.05

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC/CO BOILER NOx CEMS REPORT 1ST QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
				DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
	Quarterly	Semi-Annual		Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	1/12/2021 at 13:00 hours	1/12/2021 at 14:00 hours	CEMS downtime for 60 minutes	Cylinder Gas Audit (CGA).	Completed and passed CGA, recalibrated the analyzer and returned to service.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 260 ppmvd SO2 at 0% excess O2 as a rolling 7-day average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 1/12/2021

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 129,540 min

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	60
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	60
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.05

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 160 ppmvd SO2 at 0% excess O2 as a rolling 365-day average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 1/12/2021

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 129,540 min

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	60
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	60
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.05

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 1,020 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 1/12/2021

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 129,540 min

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	60
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	60
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.05

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.92 lb SO2 per 1000 lb of fresh feed

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 1/12/2021

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 129,540 min

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	60
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	60
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.05

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC/CO BOILER SO2 CEMS REPORT 1ST QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	1/12/2021 at 13:00 hours	1/12/2021 at 14:00 hours	CEMS downtime for 60 minutes	Cylinder Gas Audit (CGA).	Completed and passed CGA, recalibrated the analyzer and returned to service.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 250 ppm SO_2 dry, 0% excess O_2 (12-hour average)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Ametek Model 919, SN: ZB-919SP-10541-1

Date of Latest CEMS Certification or Audit: 2/8/2021

Process Unit(s) Description: #1 Claus Sulfur Recovery Unit with SCOT Unit (0448020007P009)

Total Source Operating Time in Reporting Period[2]: 110,245 min

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	1620
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	60
d. Other known causes	0	d. Other known causes	1200
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	2,880
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	2.61

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC SRU #1 SO2 CEMS REPORT FOR 1ST QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P009 - Sulfur Recovery Unit #1	Yes	No	Continuous Emission Monitoring System (CEMS)	2/8/2021 at 10:00 hours	2/8/2021 at 11:00 hours	CEMS downtime for 60 minutes	Cylinder Gas Audit (CGA).	Completed and passed CGA, recalibrated the analyzer and returned to service.	No	N/A	N/A
P009 - Sulfur Recovery Unit #1	Yes	No	Continuous Emission Monitoring System (CEMS)	3/30/2021 at 07:00 hours	3/31/2021 at 10:00 hours	CEMS out-of-control time for 1620 minutes	Analyzer failed daily validation.	Recalibrated and returned the analyzer to service.	No	N/A	N/A
P009 - Sulfur Recovery Unit #1	Yes	No	Continuous Emission Monitoring System (CEMS)	3/15/2021 at 11:00 hours	3/15/2021 at 15:00 hours	CEMS downtime for 240 minutes	Quarterly / monthly preventative maintenance (PM).	Completed the PM, recalibrated the analyzer and returned to service.	No	N/A	N/A
P009 - Sulfur Recovery Unit #1	Yes	No	Continuous Emission Monitoring System (CEMS)	3/15/2021 at 16:00 hours	3/16/2021 at 08:00 hours	CEMS downtime for 960 minutes	Analyzer was left on maintenance mode after a quarterly/monthly perventative maintenance (PM)	Switched the mode on the analyzer, recalibrated the analyzer and returned to service.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 250 ppm SO_2 dry, 0% excess O_2 (12-hour average)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Ametek Model 919 and WDG-V, SN: ZX-919-10814-1

Date of Latest CEMS Certification or Audit: 2/8/2021

Process Unit(s) Description: Sulfur Recovery Units # 2 & #3 with TGT #2 (0448020007P037)

Total Source Operating Time in Reporting Period[2]: 129,344 min

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	1260
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	1140
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	2,400
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	1.86

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC SRU #2 & SRU #3 SO2 CEMS REPORT FOR 1ST QUARTER 2021

EMISSIONS UNIT ID / Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P037 - Sulfur Recovery Units #2 & #3	Yes	No	Continuous Emission Monitoring System (CEMS)	1/21/2021 at 19:00 hours	1/22/2021 at 09:00 hours	CEMS downtime for 840 minutes	Programmable logic controller (PLC) locked up resulting in irretrievable data.	Resetted the power on the PLC, recalibrated the analyzer and returned to service.	No	N/A	N/A
P037 - Sulfur Recovery Units #2 & #3	Yes	No	Continuous Emission Monitoring System (CEMS)	2/5/2021 at 12:00 hours	2/6/2021 at 09:00 hours	CEMS downtime for 1260 minutes	Analyzer sample system line froze.	Cleared line, recalibrated the analyzer and returned to service.	No	N/A	N/A
P037 - Sulfur Recovery Units #2 & #3	Yes	No	Continuous Emission Monitoring System (CEMS)	3/24/2021 at 10:00 hours	3/24/2021 at 15:00 hours	CEMS downtime for 300 minutes	Replaced lamps and cleaned optical bench.	Recalibrated and returned the analyzer to service.	No	N/A	N/A

Additional Information Required under PTI # 04-1046

1. **Total SO_2 emissions during calendar quarter (in tons), including any excess emissions attributed to the malfunction, startup, or shutdown of emissions unit P037. (ST&C III.A.iii)**

   Total SO_2 emissions from the TRP SRUs during the period January 1, 2021 through March 31, 2021 were calculated at 5.69 tons.

2. **Total operating time of the CEMS while either SRU was online. (ST&C III.A.iii)**

   During the quarter, the total source operating time while either or both SRUs were in service was 2,155 hours. The CEMS was online and monitoring for 2,116 hours while either SRU was in service.

   During the quarter, there were three (3) periods of CEMS downtime for a total duration of 40 hours. Details of these events are summarized in the table attached.

3. **Quantification of emissions routed from the SRU to the flare beginning with activation of the relief valve until the release is over. (ST&C VII.A)**

   For the 1st quarter, there were two periods during the quarter when acid gas was sent to the TRP Acid Gas flare:

   Period 1
   - Duration: 3/20/2021 11:25 – 11:29 (4 minutes)
   - Quantity (SO_2): 476 lbs.

   Period 2
   - Duration: 3/20/2021 12:04 – 12:08 (4 minutes)
   - Quantity (SO_2): 119 lbs.

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: NOx

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2

Monitor Location: Sample port on East Alstom Boiler Stack; monitor housed at ground level in an analyzer building adjacent the boiler.

Date of Latest CMS Cert or Audit: 1/19/2021

Process Unit(s) Description: East Alstom Boiler (0448020007B034)

Total Source Operating Time in Reporting Period: 129,535 min (TIU fuel gas was combusted for 112,684 minutes and natural gas was combusted for 16,851 minutes for a total of 129,535 minutes this quarter)

CMS operating time while emission unit was in operation: 129,475 min

Emission Limitation: 12.71 lb/hr of NO_x emissions;
38.5 tons/rolling 12-month period of NO_x emissions (combined B034 & B035);
0.10 lb NO_x (as NO_2) per mmBtu heat input 30-day rolling average

Emission Data Summary		**CMS Perfomance Summary**	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	60
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	60
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.05

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - No changes since last quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - EAST ALSTOM BOILER NOx CEMS REPORT FOR 1ST QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
				DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
	Quarterly	Semi-Annual		Date / Time Start	Date / Time End						
B034 - Eest Alstom Boiler	Yes	No	Continuous Monitoring System	1/19/2021 at 11:00 hours	1/19/2021 at 12:00 hours	CEMS downtime for 60 minutes	Cylinder Gas Audit (CGA).	Completed and passed CGA, recalibrated the analyzer and returned to service.	No	N/A	N/A

East Alstom Boiler - 1st Quarter 2021 Db Data

NSPS Db: Supplemental Reporting for NO_x CEM Records as required by 40 CFR 49b(i)

This table contains the information required by 60.49(g)(1-8).
Records for (g)(9-10) are provided in the NSPS Quarterly CEMS Report.

East Alstom Boiler (B034): 353 MMBtu/hr heater fired with refinery fuel gas and/or natural gas

Calculation Methodology: NO_x emissions (lb/mmbtu) calculated from NO_x CEM (ppm) using Methodology in 40 CFR 60 Appendix A Method 19 and F factor of 8710 dscf/mmbtu from Method 19 Table 19-1 when natural gas fired; site-specific F factor determined from fuel analysis when refinery fuel gas fired.

NSPS Limit: 0.10 lb NO_x/MMBtu

Date	Hourly daily average NOx (lb/MMBtu)	30-day rolling average NOx (lb/MMBtu)	Excess Emissions (yes/no)	NOx Conc Exceeded CEM Span? (yes/no)	Comments: Reason for Missing or Invalid Data, or Excess Emissions
1/1/2021	0.016	0.016	No	No	
1/2/2021	0.016	0.016	No	No	
1/3/2021	0.016	0.016	No	No	
1/4/2021	0.016	0.016	No	No	
1/5/2021	0.016	0.016	No	No	
1/6/2021	0.016	0.016	No	No	
1/7/2021	0.017	0.016	No	No	
1/8/2021	0.019	0.016	No	No	
1/9/2021	0.020	0.017	No	No	
1/10/2021	0.021	0.017	No	No	
1/11/2021	0.022	0.018	No	No	
1/12/2021	0.021	0.018	No	No	
1/13/2021	0.019	0.018	No	No	
1/14/2021	0.019	0.018	No	No	
1/15/2021	0.017	0.018	No	No	
1/16/2021	0.017	0.018	No	No	
1/17/2021	0.017	0.018	No	No	
1/18/2021	0.021	0.018	No	No	
1/19/2021	0.022	0.018	No	No	
1/20/2021	0.021	0.018	No	No	
1/21/2021	0.022	0.019	No	No	
1/22/2021	0.021	0.019	No	No	
1/23/2021	0.022	0.019	No	No	
1/24/2021	0.022	0.019	No	No	
1/25/2021	0.022	0.019	No	No	
1/26/2021	0.020	0.019	No	No	
1/27/2021	0.019	0.019	No	No	
1/28/2021	0.019	0.019	No	No	
1/29/2021	0.021	0.019	No	No	
1/30/2021	0.022	0.019	No	No	
1/31/2021	0.021	0.019	No	No	
2/1/2021	0.019	0.020	No	No	
2/2/2021	0.022	0.020	No	No	
2/3/2021	0.023	0.020	No	No	
2/4/2021	0.023	0.020	No	No	
2/5/2021	0.026	0.021	No	No	
2/6/2021	0.027	0.021	No	No	
2/7/2021	0.027	0.021	No	No	
2/8/2021	0.027	0.021	No	No	
2/9/2021	0.026	0.022	No	No	
2/10/2021	0.025	0.022	No	No	
2/11/2021	0.027	0.022	No	No	
2/12/2021	0.027	0.022	No	No	
2/13/2021	0.026	0.022	No	No	
2/14/2021	0.025	0.023	No	No	
2/15/2021	0.025	0.023	No	No	
2/16/2021	0.027	0.023	No	No	
2/17/2021	0.026	0.023	No	No	
2/18/2021	0.025	0.023	No	No	
2/19/2021	0.024	0.024	No	No	
2/20/2021	0.022	0.024	No	No	
2/21/2021	0.021	0.024	No	No	
2/22/2021	0.021	0.024	No	No	
2/23/2021	0.021	0.023	No	No	
2/24/2021	0.020	0.023	No	No	
2/25/2021	0.020	0.023	No	No	

Date	Hourly daily average NOx (lb/MMBtu)	30-day rolling average NOx (lb/MMBtu)	Excess Emissions (yes/no)	NOx Conc Exceeded CEM Span? (yes/no)	Comments: Reason for Missing or Invalid Data, or Excess Emissions
2/26/2021	0.020	0.023	No	No	
2/27/2021	0.020	0.023	No	No	
2/28/2021	0.018	0.023	No	No	
3/1/2021	0.018	0.023	No	No	
3/2/2021	0.020	0.023	No	No	
3/3/2021	0.019	0.023	No	No	
3/4/2021	0.019	0.023	No	No	
3/5/2021	0.019	0.023	No	No	
3/6/2021	0.019	0.023	No	No	
3/7/2021	0.020	0.023	No	No	
3/8/2021	0.020	0.022	No	No	
3/9/2021	0.021	0.022	No	No	
3/10/2021	0.024	0.022	No	No	
3/11/2021	0.020	0.022	No	No	
3/12/2021	0.018	0.022	No	No	
3/13/2021	0.020	0.021	No	No	
3/14/2021	0.020	0.021	No	No	
3/15/2021	0.021	0.021	No	No	
3/16/2021	0.021	0.021	No	No	
3/17/2021	0.021	0.021	No	No	
3/18/2021	0.023	0.021	No	No	
3/19/2021	0.024	0.021	No	No	
3/20/2021	0.018	0.020	No	No	
3/21/2021	0.017	0.020	No	No	
3/22/2021	0.020	0.020	No	No	
3/23/2021	0.020	0.020	No	No	
3/24/2021	0.020	0.020	No	No	
3/25/2021	0.016	0.020	No	No	
3/26/2021	0.017	0.020	No	No	
3/27/2021	0.015	0.020	No	No	
3/28/2021	0.014	0.019	No	No	
3/29/2021	0.016	0.019	No	No	
3/30/2021	0.018	0.019	No	No	
3/31/2021	0.018	0.019	No	No	

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: NOx

Reporting Period Dates: **From:** January 1, 2021 **To:** April 1, 2021

Company: BP-Husky Refining LLC

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2

Monitor Location: Sample port on West Alstom Boiler Stack; monitor housed at ground level in an analyzer building adjacent the boiler.

Date of Latest CMS Certification or Audit: 1/19/2021

Process Unit(s) Description: West Alstom Boiler (0448020007B035)

Total Source Operating Time in Reporting Period: 129,536 min (TIU fuel gas was combusted for 0 minutes and natural gas was combusted for 129,536 minutes for a total of 129,536 minutes this quarter)

CMS operating time while emission unit was in operation: 129,476 min

Emission Limitation: 12.71 lb/hr of NO_x emissions;
38.5 tons/rolling 12-month period of NO_x emissions (combined B034 & B035);
0.10 lb NO_x (as NO_2) per mmBtu heat input 30-day rolling average

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	60
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	60
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.05

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - No changes since last quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 26-May-21

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - WEST ALSTOM BOILER NOx CEMS REPORT FOR 1ST QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
B035 - West Alstom Boiler	Yes	No	Continuous Monitoring System	1/19/2021 at 10:00 hours	1/19/2021 at 11:00 hours	CEMS downtime for 60 minutes	Cylinder Gas Audit (CGA).	Completed and passed CGA, recalibrated the analyzer and returned to service.	No	N/A	N/A

West Alstom Boiler - 1st Quarter 2021 Db Data

NSPS Db: Supplemental Reporting for NO_x CEM Records as required by 40 CFR 49b(i)

This table contains the information required by 60.49(g)(1-8).
Records for (g)(9-10) are provided in the NSPS Quarterly CEMS Report.

West Alstom Boiler (B035): 353 MMBtu/hr heater fired with refinery fuel gas and/or natural gas

Calculation Methodology: NO_x emissions (lb/mmbtu) calculated from NO_x CEM (ppm) using Methodology in 40 CFR 60 Appendix A Method 19 and F factor of 8710 dscf/mmbtu from Method 19 Table 19-1 when natural gas fired; site-specific F factor determined from fuel analysis when refinery fuel gas fired.

NSPS Limit: 0.10 lb NO_x/MMBtu

Date	Hourly daily average NOx (lb/MMBtu)	30-day rolling average NOx (lb/MMBtu)	Excess Emissions (yes/no)	NOx Conc Exceeded CEM Span? (yes/no)	Comments: Reason for Missing or Invalid Data, or Excess Emissions
1/1/2021	0.015	0.015	No	No	
1/2/2021	0.016	0.015	No	No	
1/3/2021	0.015	0.015	No	No	
1/4/2021	0.015	0.015	No	No	
1/5/2021	0.015	0.015	No	No	
1/6/2021	0.015	0.015	No	No	
1/7/2021	0.014	0.015	No	No	
1/8/2021	0.016	0.015	No	No	
1/9/2021	0.018	0.015	No	No	
1/10/2021	0.019	0.016	No	No	
1/11/2021	0.020	0.016	No	No	
1/12/2021	0.019	0.016	No	No	
1/13/2021	0.017	0.016	No	No	
1/14/2021	0.018	0.016	No	No	
1/15/2021	0.018	0.017	No	No	
1/16/2021	0.018	0.017	No	No	
1/17/2021	0.018	0.017	No	No	
1/18/2021	0.019	0.017	No	No	
1/19/2021	0.019	0.017	No	No	
1/20/2021	0.019	0.017	No	No	
1/21/2021	0.018	0.017	No	No	
1/22/2021	0.017	0.017	No	No	
1/23/2021	0.017	0.017	No	No	
1/24/2021	0.017	0.017	No	No	
1/25/2021	0.015	0.017	No	No	
1/26/2021	0.015	0.017	No	No	
1/27/2021	0.019	0.017	No	No	
1/28/2021	0.022	0.017	No	No	
1/29/2021	0.024	0.017	No	No	
1/30/2021	0.024	0.018	No	No	
1/31/2021	0.023	0.018	No	No	
2/1/2021	0.021	0.018	No	No	
2/2/2021	0.022	0.018	No	No	
2/3/2021	0.022	0.019	No	No	
2/4/2021	0.022	0.019	No	No	
2/5/2021	0.023	0.019	No	No	
2/6/2021	0.023	0.019	No	No	
2/7/2021	0.023	0.020	No	No	
2/8/2021	0.023	0.020	No	No	
2/9/2021	0.023	0.020	No	No	
2/10/2021	0.022	0.020	No	No	
2/11/2021	0.022	0.020	No	No	
2/12/2021	0.024	0.020	No	No	
2/13/2021	0.021	0.020	No	No	
2/14/2021	0.020	0.021	No	No	
2/15/2021	0.020	0.021	No	No	
2/16/2021	0.020	0.021	No	No	
2/17/2021	0.020	0.021	No	No	
2/18/2021	0.019	0.021	No	No	
2/19/2021	0.021	0.021	No	No	
2/20/2021	0.021	0.021	No	No	
2/21/2021	0.020	0.021	No	No	
2/22/2021	0.017	0.021	No	No	
2/23/2021	0.017	0.021	No	No	
2/24/2021	0.017	0.021	No	No	
2/25/2021	0.019	0.021	No	No	
2/26/2021	0.019	0.021	No	No	

Date	Hourly daily average NOx (lb/MMBtu)	30-day rolling average NOx (lb/MMBtu)	Excess Emissions (yes/no)	NOx Conc Exceeded CEM Span? (yes/no)	Comments: Reason for Missing or Invalid Data, or Excess Emissions
2/27/2021	0.018	0.021	No	No	
2/28/2021	0.017	0.021	No	No	
3/1/2021	0.019	0.021	No	No	
3/2/2021	0.019	0.021	No	No	
3/3/2021	0.018	0.020	No	No	
3/4/2021	0.019	0.020	No	No	
3/5/2021	0.020	0.020	No	No	
3/6/2021	0.020	0.020	No	No	
3/7/2021	0.019	0.020	No	No	
3/8/2021	0.018	0.020	No	No	
3/9/2021	0.021	0.020	No	No	
3/10/2021	0.023	0.020	No	No	
3/11/2021	0.022	0.020	No	No	
3/12/2021	0.023	0.020	No	No	
3/13/2021	0.023	0.020	No	No	
3/14/2021	0.023	0.020	No	No	
3/15/2021	0.023	0.020	No	No	
3/16/2021	0.023	0.020	No	No	
3/17/2021	0.023	0.020	No	No	
3/18/2021	0.024	0.020	No	No	
3/19/2021	0.024	0.020	No	No	
3/20/2021	0.023	0.021	No	No	
3/21/2021	0.022	0.021	No	No	
3/22/2021	0.022	0.021	No	No	
3/23/2021	0.022	0.021	No	No	
3/24/2021	0.022	0.021	No	No	
3/25/2021	0.022	0.021	No	No	
3/26/2021	0.022	0.021	No	No	
3/27/2021	0.022	0.021	No	No	
3/28/2021	0.022	0.021	No	No	
3/29/2021	0.023	0.022	No	No	
3/30/2021	0.023	0.022	No	No	
3/31/2021	0.024	0.022	No	No	

Attachment B – Data Assessment Report

Data Assessment Report - East Side Fuel Gas Mix Drum H_2S CMS

Period ending date: March 31 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B008, B009, B010

CEMS Manufacturer: Siemens	*Model #:* Maxim II	*CEMS Serial #:* 30028039490020
CEMS type: Hydrogen Sulfide	*CEMS sampling location:* East Side Fuel Gas Mix Drum	

CEMS span values as per the applicable regulation:

	PPM		Percent
SO_2		O_2	
H_2S	300	CO_2	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for:

		Vivicom	PI
1.	Date of audit:	3/18/21	3/18/21
2.	Reference method (RM) used:	Method 15	Method 15
3.	Average RM value:	4.16	4.16
4.	Average CEMS value:	6.47	6.14
5.	Absolute value of mean difference:	2.31	1.98
6.	Confidence coefficient:	0.276	0.278
7.	Percent relative accuracy: (based on applicable standard)	1.60	1.40

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

B. Cylinder gas audit (CGA) for H_2S (ppm): (Not Applicable this quarter)

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - TIU Fuel Gas Mix Drum H_2S CMS

Period ending date: March 31 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B015, B017, B019, B022, B029, B030, B031, B032, B033, B035, P007

CEMS Manufacturer: Siemens	*Model #:* Maxim II		*CEMS Serial #:* 30020117999300
CEMS type: Hydrogen Sulfide	*CEMS sampling location:* TIU Fuel Gas Mix Drum		
CEMS span values as per the applicable regulation:			
	PPM		**Percent**
SO_2		**O_2**	
H_2S	300	**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for:

		Vivicom	PI
1.	Date of audit:	3/10/21	3/10/21
2.	Reference method (RM) used:	Method 15	Method 15
3.	Average RM value:	4.75	4.75
4.	Average CEMS value:	2.93	2.60
5.	Absolute value of mean difference:	1.82	2.15
6.	Confidence coefficient:	0.475	0.473
7.	Percent relative accuracy: (based on applicable standard)	1.42	1.62

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

B. Cylinder gas audit (CGA) for H_2S (ppm): (Not Applicable this quarter)

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - Reformer 3 Heater H_2S CMS

Period ending date: March 31 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B036

CEMS Manufacturer: Siemens	*Model #:* Maxim II	*CEMS Serial #:* 30029994471080
CEMS type: Hydrogen Sulfide	*CEMS sampling location:* Reformer 3 Heater Fuel Gas	

CEMS span values as per the applicable regulation:

	PPM		Percent
SO_2		**O_2**	
H_2S	300	**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for:

		Vivicom	PI
1.	Date of audit:	3/11/21	3/11/21
2.	Reference method (RM) used:	Method 15	Method 15
3.	Average RM value:	2.32	2.32
4.	Average CEMS value:	1.03	1.24
5.	Absolute value of mean difference:	1.29	1.07
6.	Confidence coefficient:	0.705	0.692
7.	Percent relative accuracy: (based on applicable standard)	1.23	1.09

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

B. Cylinder gas audit (CGA) for H_2S (ppm): (Not Applicable this quarter)

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - East Flare H_2S CMS

Period ending date: March 31 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P003

CEMS Manufacturer: Siemens	*Model #:* Maxim II	*CEMS Serial #:* 30050531960100
CEMS type: Hydrogen Sulfide	*CEMS sampling location:* East Flare	

CEMS span values as per the applicable regulation:

	PPM		**Percent**
SO_2		**O_2**	
H_2S	300	**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for:

		Vivicom	**PI**
1.	Date of audit:	3/17/21	3/17/21
2.	Reference method (RM) used:	Method 15	Method 15
3.	Average RM value:	15.15	15.15
4.	Average CEMS value:	24.70	24.70
5.	Absolute value of mean difference:	9.55	9.55
6.	Confidence coefficient:	1.325	1.393
7.	Percent relative accuracy: (based on applicable standard)	6.71	6.75

8. EPA performance audit results:	**Point (1)**	**Point (2)**
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

B. Cylinder gas audit (CGA) for H_2S (ppm): (Not Applicable this quarter)

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - West Flare H_2S CMS

Period ending date: March 31 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P004

CEMS Manufacturer: Siemens	*Model #:* Maxim II	*CEMS Serial #:* 30050531960400
CEMS type: Hydrogen Sulfide	*CEMS sampling location:* West Flare	

CEMS span values as per the applicable regulation:

	PPM		**Percent**
SO_2		**O_2**	
H_2S	300	**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for:

		Vivicom	**PI**
1.	Date of audit:	3/9/21	3/9/21
2.	Reference method (RM) used:	Method 15	Method 15
3.	Average RM value:	0.79	0.79
4.	Average CEMS value:	0.55	0.54
5.	Absolute value of mean difference:	0.24	0.26
6.	Confidence coefficient:	0.162	0.147
7.	Percent relative accuracy: (based on applicable standard)	0.24	0.24

8. EPA performance audit results:	**Point (1)**	**Point (2)**
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

B. Cylinder gas audit (CGA) for H_2S (ppm): (Not Applicable this quarter)

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - East Flare TS CMS

Period ending date: March 31 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P003

CEMS Manufacturer: ThermoFisher	*Model #:* Sola II	*CEMS Serial #:* SL-10430115	
CEMS type: Total Sulfur	*CEMS sampling location:* East Flare		
CEMS span values as per the applicable regulation:			
	PPM		
TS (low)	3,500		
TS (high)	350,000		

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable)

B. Cylinder gas audit (CGA) for TS Low (ppm) and TS High (ppm):

	TS Low		TS High	
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	1/20/2021	1/20/2021	1/20/2021	1/20/2021
2. Cylinder ID number	CC427785	CC475560	CC121778	CC706892
Vendor	Airgas	Airgas	Airgas	Airgas
3. Date of certification	3/13/2019	3/31/2020	3/18/2019	2/6/2019
Expiration date	3/13/2022	3/31/2023	3/18/2022	2/6/2022
4. Type of certification	RATA Class	RATA Class	RATA Class	EPA Protocol
5. Certified audit value	884.0	1,898	87,110	189,700
6. CEMS response values	884.7	1,917	86,909	188,709
	887.4	1,924	86,181	186,809
	885.2	1,916	87,041	186,381
Average	885.8	1,919.0	86,710	187,300
7. Accuracy	0.20%	1.11%	-0.46%	-1.27%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - West Flare TS CMS

Period ending date: March 31 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P004

CEMS Manufacturer: ThermoFisher	*Model #:* Sola II	*CEMS Serial #:* SL-10440115
CEMS type: Total Sulfur	*CEMS sampling location:* West Flare	

CEMS span values as per the applicable regulation:

	PPM		
TS (low)	3,500		
TS (high)	350,000		

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable)

B. Cylinder gas audit (CGA) for TS Low (ppm) and TS High (ppm):

	TS Low		**TS High**	
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	1/22/2021	1/22/2021	1/22/2021	1/22/2021
2. Cylinder ID number	CC315721	CC115212	CC62361	AAL070367
Vendor	Airgas	Airgas	Airgas	Airgas
3. Date of certification	3/13/2019	11/11/2019	3/18/2019	3/7/2019
Expiration date	3/13/2022	11/11/2022	3/18/2027	3/7/2027
4. Type of certification	RATA Class	RATA Class	RATA Class	RATA Class
5. Certified audit value	884.3	1,940.0	86,970	192,500
6. CEMS response values	892.9	1,973.6	87,415	189,250
	890.5	1,972.8	87,186	189,789
	890.9	1,992.3	87,424	190,412
Average	891.4	1,979.6	87,342	189,817
7. Accuracy	0.80%	2.04%	0.43%	-1.39%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – TIU Fuel Gas Mix Drum TS CMS

Period ending date: March 31 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B015, B017, B019, B022, B029, B030, B031, B032, B033, B034 B035, P007

CEMS Manufacturer: ThermoFisher	*Model #:* Sola II	*CEMS Serial #:* SL-09030713
CEMS type: Total Sulfur	*CEMS sampling location:* TIU Fuel Gas Mix Drum	
CEMS span values as per the applicable regulation:		

	PPM		
TS	3,500		

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for:

	TS (ppm)	
	Audit #1	Audit #2
1. Date of audit	1/25/2021	1/25/2021
2. Cylinder ID number	CC338715	CC218822
Vendor	Airgas	Airgas
3. Date of certification	3/13/2019	3/31/2020
Expiration date	3/13/2022	3/31/2023
4. Type of certification	RATA Class	RATA Class
5. Certified audit value	884.70	1844.00
6. CEMS response values	927.00	1843.80
	928.60	1839.80
	928.00	1846.00
Average	927.87	1843.20
7. Accuracy	4.88%	-0.04%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - Reformer 3 Heater NO_x/O_2 CEM

Period ending date: March 31 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B036

O_2 CEMS Manufacturer: ABB	Model #: MAGNOS 106	CEMS Serial # 3.340932.7
NO_x CEMS Manufacturer: ABB	Model #: LIMAS 11	CEMS Serial # 3.340287.1
CEMS sampling location: Reformer 3 Heater stack		
CEMS span values as per the applicable regulation:		

	PPM		Percent
SO_2		**O_2**	25
NO_x	200	**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable)

B. Cylinder gas audit (CGA) for O2 (%) and NOx (ppm):

	O2 (%)		NOx (ppm)	
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	1/12/2021	1/12/2021	1/12/2021	1/12/2021
2. Cylinder ID number	CC278207	BLM001313	BLM003126	LL10026
Vendor	Airgas	Scott	Scott	Airgas
3. Date of certification	11/20/2017	11/12/2013	10/21/2013	11/12/2019
Expiration date	11/20/2025	11/13/2021	10/22/2021	11/12/2027
4. Type of certification	RATA Class	RATA Class	RATA Class	RATA Class
5. Certified audit value	5.97	13.90	50.40	117.20
6. CEMS response values	5.91	14.05	45.23	113.13
	5.93	14.05	45.64	113.56
	5.93	14.05	45.84	113.88
Average	5.92	14.05	45.57	113.52
7. Accuracy	-0.84%	1.08%	-9.58%	-3.14%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods: None
   a. Dates:
   b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – East Alstom Boiler NO_x/O_2 CEM

Period ending date: March 31 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B034

O_2 CEMS Manufacturer: ABB	Model #: MAGNOS 106	CEMS Serial # 00400003357006
NO_x CEMS Manufacturer: ABB	Model #: LIMAS 11	CEMS Serial # 00400003362206
CEMS sampling location: East Alstom Boiler stack		
CEMS span values as per the applicable regulation:		

	PPM		Percent
SO_2		**O_2**	20.0
NO_x	100	**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audits (RATAs): (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for O_2 (%):

	O_2		
	Audit #1	Audit #2	Audit #3
1. Date of audit	1/19/2021	1/19/2021	1/19/2021
2. Cylinder ID number	BLM005117	BAL5136	XC029674B
Vendor	Airgas	Air Liquide	Airgas
3. Date of certification	5/22/2020	8/30/2020	1/28/2019
Expiration date	5/22/2028	8/30/2024	1/28/2027
4. Type of certification	RATA Class	RATA Class	RATA Class
5. Certified audit value	5.55	11.00	18.10
6. CEMS response values	5.50	11.06	18.16
	5.52	11.07	18.16
	5.52	11.07	18.15
Average:	5.51	11.07	18.16
7. Accuracy	-0.72%	0.64%	0.33%

Cylinder gas audit (CGA) for NO_x (ppm):

	NO_x		
	Audit #1	Audit #2	Audit #3
1. Date of audit	1/19/2021	1/19/2021	1/19/2021
2. Cylinder ID number	BAL5293	XL000366B	ALM020313
Vendor	Air Liquide	Airgas	Airgas
3. Date of certification	11/2/2018	11/21/2017	3/6/2020
Expiration date	11/2/2021	11/21/2025	3/6/2028
4. Type of certification	RATA Class	RATA Class	RATA Class
5. Certified audit value	23.53	54.79	91.10
6. CEMS response values	25.34	56.85	92.40
	24.09	56.33	92.50
	25.44	56.61	91.46
Average:	24.96	56.60	92.12
7. Accuracy	6.08%	3.30%	1.12%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods. None
   a. Dates:
   b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – West Alstom Boiler NO_x/O_2 CEM

Period ending date: March 31 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B035

O_2 CEMS Manufacturer: ABB	Model #: MAGNOS 106	CEMS Serial # 00400003354606
NO_x CEMS Manufacturer: ABB	Model #: LIMAS 11	CEMS Serial # 00400003361106
CEMS sampling location: West Alstom Boiler stack		
CEMS span values as per the applicable regulation:		

	PPM		Percent
SO_2		**O_2**	20.0
NO_x	100	**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audits (RATAs): (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for O_2 (%):

	O_2		
	Audit #1	Audit #2	Audit #3
1. Date of audit	1/19/2021	1/19/2021	1/19/2021
2. Cylinder ID number	BLM005117	BAL5136	XC029674B
Vendor	Airgas	Air Liquide	Airgas
3. Date of certification	5/22/2020	8/30/2020	1/28/2019
Expiration date	5/22/2028	8/30/2024	1/28/2027
4. Type of certification	RATA Class	RATA Class	RATA Class
5. Certified audit value	5.55	11	18.1
6. CEMS response values	5.55	11.09	18.17
	5.56	11.10	18.17
	5.56	11.10	18.17
Average:	5.56	11.10	18.17
7. Accuracy	0.18%	0.91%	0.39%

Cylinder gas audit (CGA) for NO_x (ppm):

	NO_x		
	Audit #1	Audit #2	Audit #3
1. Date of audit	1/19/2021	1/19/2021	1/19/2021
2. Cylinder ID number	BAL5293	XL000366B	ALM020313
Vendor	Air Liquide	Airgas	Airgas
3. Date of certification	11/2/2018	11/21/2017	3/6/2020
Expiration date	11/2/2021	11/21/2025	3/6/2028
4. Type of certification	RATA Class	RATA Class	RATA Class
5. Certified audit value	23.53	54.79	91.1
6. CEMS response values	24.66	54.83	89.33
	25.03	54.65	88.88
	25.03	54.79	88.90
Average:	24.91	54.76	89.04
7. Accuracy	5.86%	-0.05%	-2.26%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods. None
   a. Dates:
   b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – FCC/CO Boiler $SO_2/NO_x/CO/O_2$ CEM

Period ending date: March 31 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P007

O_2 CEMS Manufacturer: ABB	Model #: Magnos 106	CEMS Serial # 3.340569.7	
SO_2 CEMS Manufacturer: ABB	Model #: Limas 11 UV	CEMS Serial # 3.340641.7	
NO_x CEMS Manufacturer: ABB	Model #: Limas 11 UV	CEMS Serial # 3.340641.7	
CO CEMS Manufacturer: ABB Automation	Model #: URAS- 26	CEMS Serial # 3.347698.3	
CEMS sampling location: CO Boiler stack			
CEMS span values as per the applicable regulation:			
SO_2	400 PPM	**O_2**	10.0 %
NO_x	350 PPM	**CO**	1000 PPM

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audits (RATAs): (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for O_2 (%) and SO_2 (ppm):

	O_2 (percent)		SO_2 (ppm)	
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	1/12/2021	1/12/2021	1/12/2021	1/12/2021
2. Cylinder ID number	ALM001730	CC423357	ALM001730	CC423357
Vendor	Scott	Airgas	Scott	Airgas
3. Date of certification	2/14/2017	2/14/2017	2/14/2017	2/14/2017
Expiration date	2/14/2025	2/14/2025	2/14/2025	2/14/2025
4. Type of certification	RATA Class	RATA Class	RATA Class	RATA Class
5. Certified audit value	2.49	5.53	98.98	219.40
6. CEMS response values	2.48	5.41	97.47	219.23
	2.47	5.41	98.76	216.73
	2.47	5.40	97.44	216.55
Average	2.47	5.41	97.89	217.50
7. Accuracy	-0.80%	-2.17%	-1.10%	-0.87%

B. Cylinder gas audit (CGA) for NO_x (ppm) and CO (ppm):

	NO_x (ppm)		CO (ppm)	
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	1/12/2021	1/12/2021	1/12/2021	1/12/2021
2. Cylinder ID number	XC030834B	CC222300	XC030834B	CC222300
Vendor	Airgas	Airgas	Airgas	Airgas
3. Date of certification	2/14/2017	2/14/2017	2/14/2017	2/14/2017
Expiration date	2/14/2025	2/14/2025	2/14/2025	2/14/2025
4. Type of certification	RATA Class	RATA Class	RATA Class	RATA Class
5. Certified audit value	80.86	187.80	249.50	551.00
6. CEMS response values	74.30	174.08	247.32	543.55
	76.05	176.33	247.87	544.16
	76.78	176.03	248.09	544.20
Average	75.71	175.48	247.76	543.97
7. Accuracy	-6.37%	-6.56%	-0.70%	-1.28%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods. None
   a. Dates:
   b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – FCC Regen Line $SO_2/NO_x/CO/O_2/CO_2$ CEM

Period ending date: March 31 **Year:** 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P007

SO_2 CEMS Manufacturer: ABB	Model #: Limas 11 UV	CEMS Serial # 3.240685.3
NO_x CEMS Manufacturer: ABB	Model #: Limas 11 UV	CEMS Serial # 3.240682.3
CO CEMS Manufacturer: ABB	Model #: URAS 14	CEMS Serial # 3.240684.3
O_2 CEMS Manufacturer: ABB	Model #: Magnos 206	CEMS Serial # 01400101195301
CO_2 CEMS Manufacturer: ABB	Model #: Limas 11 UV	CEMS Serial # 3.240682.3
CEMS sampling location: FCC Regen Line stack		
CEMS span values as per the applicable regulation:		

SO_2	500 PPM	**O_2**	25.0 %
NOx	200 PPM	**CO**	1000 PPM
CO_2	50.0 %		

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA): (Not applicable this quarter)

B. Cylinder gas audit (CGA) for O_2 (%) and SO_2 (ppm):

	O_2 (percent)		**SO_2 (ppm)**	
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	1/14/2021	1/14/2021	1/14/2021	1/14/2021
2. Cylinder ID number	XL001104B	BLM004046	CC443275	CC82139
Vendor	Airgas	Scott	Airgas	Airgas
3. Date of certification	11/20/2017	11/19/2015	11/21/2017	11/21/2017
Expiration date	11/20/2025	11/20/2023	11/21/2025	11/21/2025
4. Type of certification	RATA Class	RATA Class	RATA Class	RATA Class
5. Certified audit value	5.49	13.90	130.70	267.60
6. CEMS response values	5.48	14.04	126.23	266.87
	5.49	14.05	131.03	269.49
	5.49	14.05	132.33	270.19
Average	5.49	14.05	129.86	268.85
7. Accuracy	0.00%	1.08%	-0.64%	0.47%

B. Cylinder gas audit (CGA) for NO_x (ppm) and CO (ppm):

	NO_x (ppm)		CO (ppm)	
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	1/14/2021	1/14/2021	1/14/2021	1/14/2021
2. Cylinder ID number	LL34302	BAL3120	XL002639B	BAL3034
Vendor	Airgas	Air Liquide	Airgas	Scott
3. Date of certification	11/21/2017	8/12/2014	11/6/2017	11/12/2013
Expiration date	11/21/2025	8/13/2022	11/6/2025	11/13/2021
4. Type of certification	RATA Class	RATA Class	RATA Class	RATA Class
5. Certified audit value	54.90	116.00	277.60	543.00
6. CEMS response values	57.47	116.18	281.85	547.40
	56.88	116.01	282.00	547.52
	56.46	116.99	282.30	547.71
Average	56.94	116.39	282.05	547.54
7. Accuracy	3.72%	0.34%	1.60%	0.84%

B. Cylinder gas audit (CGA) for CO_2 (ppm):

	CO_2 (ppm)	
	Audit #1	Audit #2
1. Date of audit	1/14/2021	1/14/2021
2. Cylinder ID number	ALM063125	CC472694
Vendor	Scott	Scott
3. Date of certification	9/24/2018	9/24/2018
Expiration date	9/24/2026	9/24/2026
4. Type of certification	RATA Class	RATA Class
5. Certified audit value	13.11	27.20
6. CEMS response values	13.59	27.39
	13.65	27.41
	13.66	27.42
Average	13.63	27.41
7. Accuracy	3.97%	0.77%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods. None
   a. Dates:
   b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – Sulfur Recovery Unit (SRU #1)
SO_2/O_2 CEM

Period ending date: March 31 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P009

SO_2 CEMS Manufacturer: Ametek	Model #: 919	CEMS Serial #: ZB-919SP-10541-1
O_2 CEMS Manufacturer: Ametek	Model #: 919	CEMS Serial #: ZB-919SP-10541-1
CEMS sampling location: SRU Thermal Oxidizer		
CEMS span values as per the applicable regulation:		

	PPM		Percent
SO_2	500	**O_2**	10.0
NO_x		**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audits (RATAs): (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for O_2 (%) and SO_2 (ppm):

	O_2 percent		SO_2 ppm	
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	2/8/2021	2/8/2021	2/8/2021	2/8/2021
2. Cylinder ID number	ALM028323	CC13867	XC006260B	ALM004131
Vendor	Airgas	Airgas	Airgas	Airgas
3. Date of certification	2/6/2017	11/20/2017	2/24/2017	2/14/2017
Expiration date	2/6/2025	11/20/2025	2/24/2025	2/14/2025
4. Type of certification	RATA Class	RATA Class	RATA Class	EPA Protocol
5. Certified audit value	2.52	5.98	124.00	268.70
6. CEMS response values	2.53	6.00	125.70	270.82
	2.54	5.99	128.30	271.43
	2.54	6.00	128.45	272.80
Average	2.54	6.00	127.48	271.68
7. Accuracy	0.79%	0.33%	2.81%	1.11%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.
1. Out-of-control periods.
   a. Dates:
   b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – Sulfur Recovery Unit #2 and #3 (TRP SRU) SO_2/O_2 CEM

Period ending date: March 31 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P037

SO_2 CEMS Manufacturer: Ametek	Model #: 919	CEMS Serial #: ZX-919-10814-1
O_2 CEMS Manufacturer: Ametek	Model #: 919	CEMS Serial #: ZX-919-10814-1
CEMS sampling location: TGT #2 Thermal Oxidizer stack		
CEMS span values as per the applicable regulation:		

	PPM		Percent
SO_2	500	**O_2**	10.0
NO_x		**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audits (RATAs): (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for O_2 (%) and SO_2 (ppm):

	O_2 percent		SO_2 ppm	
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	2/8/2021	2/8/2021	2/8/2021	2/8/2021
2. Cylinder ID number	ALM028323	CC13867	XC006260B	ALM004131
Vendor	Airgas	Airgas	Airgas	Airgas
3. Date of certification	2/6/2017	11/20/2017	2/24/2017	2/14/2017
Expiration date	2/6/2025	11/20/2025	2/24/2025	2/14/2025
4. Type of certification	RATA Class	RATA Class	RATA Class	EPA Protocol
5. Certified audit value	2.52	5.98	124.00	268.70
6. CEMS response values	2.49	5.97	135.92	288.67
	2.49	5.97	139.43	280.74
	2.49	5.97	144.78	306.22
Average	2.49	5.97	140.04	291.88
7. Accuracy	-1.19%	-0.17%	12.94%	8.63%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.
1. Out-of-control periods.
   a. Dates:
   b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Table B1 - Calibration Drift Assessment; Out-of-Control Periods for Part 60

CEMS	Start Time	End Time	Hours	Corrective Action Taken
FCC Regen SO2	2/10/2021 10:00	2/11/2021 13:00	27	Recalibrated and returned the analyzer to service.
FCC Regen Nox	2/11/2021 7:00	2/11/2021 13:00	6	Recalibrated and returned the analyzer to service.
FCC Regen CO	2/12/2021 7:00	2/13/2021 9:00	26	Recalibrated and returned the analyzer to service.
FCC Regen CO2	2/12/2021 7:00	2/13/2021 9:00	26	Recalibrated and returned the analyzer to service.
FCC Regen Nox	2/12/2021 7:00	2/13/2021 9:00	26	Recalibrated and returned the analyzer to service.
FCC Regen SO2	2/12/2021 7:00	2/13/2021 9:00	26	Recalibrated and returned the analyzer to service.
FCC Regen O2	2/12/2021 7:00	2/13/2021 9:00	26	Recalibrated and returned the analyzer to service.
East Flare H2S	2/9/2021 7:00	2/10/2021 10:00	27	Cleared line, recalibrated the analyzer and returned to service.
East Side Mix Drum H2S	2/15/2021 8:00	2/16/2021 9:00	25	Recalibrated and returned the analyzer to service.
FCC Regen CO	3/11/2021 7:00	3/12/2021 14:00	31	Recalibrated and returned the analyzer to service.
FCC Regen CO2	3/11/2021 7:00	3/12/2021 14:00	31	Recalibrated and returned the analyzer to service.
FCC Regen Nox	3/11/2021 7:00	3/12/2021 14:00	31	Recalibrated and returned the analyzer to service.
FCC Regen SO2	3/11/2021 7:00	3/12/2021 14:00	31	Recalibrated and returned the analyzer to service.
FCC Regen O2	3/11/2021 7:00	3/12/2021 14:00	31	Recalibrated and returned the analyzer to service.
SRU 1 SO2	3/30/2021 7:00	3/31/2021 10:00	27	Recalibrated and returned the analyzer to service.
TIU Mix Drum TS	2/8/2021 8:00	2/9/2021 9:00	25	Recalibrated and returned the analyzer to service.
WF TS	3/2/2021 8:00	3/3/2021 10:00	26	Replaced pyrolizer and oven assembly, recalibrated and returned the analyzer to service.

Table B2 – Calibration Drift Assessment; Out-of-Control Periods for Part 63

CEMS	Start Time	End Time	Hours	Corrective Action Taken
FCC Regen CO	2/13/2021 7:00	2/13/2021 9:00	2	Recalibrated and returned analyzer to service.
FCC Regen CO2	2/13/2021 7:00	2/13/2021 9:00	2	Recalibrated and returned analyzer to service.
SRU 1 SO2	2/14/2021 7:00	2/14/2021 8:00	1	Recalibrated and returned analyzer to service.
FCC Regen CO	3/12/2021 7:00	3/12/2021 14:00	7	Recalibrated and returned analyzer to service.
FCC Regen CO2	3/12/2021 7:00	3/12/2021 14:00	7	Recalibrated and returned analyzer to service.
SRU 1 SO2	3/3/2021 7:00	3/3/2021 11:00	4	Recalibrated and returned analyzer to service.
SRU 1 SO2	3/26/2021 7:00	3/26/2021 9:00	2	Recalibrated and returned analyzer to service.
SRU 1 SO2	3/31/2021 7:00	3/31/2021 10:00	3	Recalibrated and returned analyzer to service.
#2 & #3 Sulfur Recovery Units / TRP SRU SO2	3/10/2021 7:00	3/10/2021 8:00	1	Recalibrated and returned analyzer to service.
#2 & #3 Sulfur Recovery Units / TRP SRU SO2	3/13/2021 7:00	3/13/2021 8:00	1	Recalibrated and returned analyzer to service.
#2 & #3 Sulfur Recovery Units / TRP SRU SO2	3/17/2021 7:00	3/17/2021 8:00	1	Recalibrated and returned analyzer to service.
#2 & #3 Sulfur Recovery Units / TRP SRU SO2	3/20/2021 7:00	3/20/2021 8:00	1	Recalibrated and returned analyzer to service.
#2 & #3 Sulfur Recovery Units / TRP SRU SO2	3/21/2021 7:00	3/21/2021 8:00	1	Recalibrated and returned analyzer to service.
#2 & #3 Sulfur Recovery Units / TRP SRU SO2	3/23/2021 7:00	3/23/2021 8:00	1	Recalibrated and returned analyzer to service.

Per 40 CFR Part 63.8(c)(7)(i), a CMS is out of control if the zero, mid-level, or high-level calibration drift (CD) exceeds two times the applicable CD specification in the applicable performance specification or in the relevant standard. These instances are reported in Table B2 above.

29-Jul-2021

Des Gillen
President
BP-Husky Refining LLC
4001 Cedar Point Road
Oregon, OH 43616
P 567.698.4529
des.gillen@se1.bp.com

City of Toledo
Division of Environmental Services
348 S. Erie Street
Toledo, OH 43604
Attn.: Peter Park

RE: CMS Summary & Data Assessment Report – 2nd Quarter 2021

Dear Sir or Madam:

Attached is the revised CMS Summary Report and Data Assessment Report for BP-Husky Refining LLC for the period of April 1, 2021 through June 30, 2021.

CMS Summary Report (Attachment A)
A complete list of emissions units and pollutants monitored are in Table 1; Summary Reports are included in Attachment A. Excess Emissions and Monitoring Systems Performance Report is not required under 40 CFR 60.7(d) if the total duration of excess emissions is less than 1% and the CMS downtime is less than 5% of the total operating time for the quarter. Unless where noted in Table 1, these criteria were met for the units listed. All future reports will have downtime and excess emissions for gases reported in hours as described in 40 CFR 60.7(d).

Table 1. Emission Units and Pollutants Monitored

Location/Emission Unit	Parameter	Quarter 2 2021 Downtime (% unit operating time)	Notes
TIU Fuel Gas Mix Drum	H_2S in Fuel Gas		
- B015 - Crude 1 Furnace		0.00	
- B017 - Coker 2 Furnace		0.00	
- B019 - Crude Vac 2 Furnace		0.00	
- B022 - Naphtha Treater Furnace		0.00	
- B029 - DHT A-Train Furnace		0.00	
- B030 - BGOT Furnace		0.00	
- B031 - Vac 1 Furnace		0.00	
- B032 - Coker 3 Furnace		0.00	
- B033 - East B-GOT Furnace		0.00	
- B034 – East Alstom Boiler		0.00	
- B035 – West Alstom Boiler		0.00	
- P007 - FCC/CO Boiler		0.00	

Location/Emission Unit	Parameter	Quarter 2 2021 Downtime (% unit operating time)	
TIU Fuel Gas Mix Drum	Total Sulfur in Fuel Gas		
- B015 - Crude 1 Furnace		4.40	
- B019 - Crude Vac 2 Furnace		4.40	
- B022 - Naphtha Treater Furnace		4.40	
- B029 - DHT A-Train Furnace		4.40	
- B030 - BGOT Furnace		4.40	
- B031 - Vac 1 Furnace		4.40	
- B032 - Coker 3 Furnace		5.83	Downtime > 5%
- B033 - East B-GOT Furnace		4.40	
- B034/B035 – East & West Alstom Boilers		4.40	
East Side Fuel Gas Mix Drum	H_2S in Fuel Gas		
- B008 - Iso 2 Feed Heater		0.00	
- B009 - Iso 2 Stabilizer Reboiler		0.00	
- B010 - Iso 2 Splitter Reboiler		0.00	
B036 - Reformer 3 Furnace	H_2S	0.00	
P003 - East Flare (see note A)	H_2S	0.05	
P003 - East Flare	Total Sulfur	1.47	
P004 – West Flare Vent Gas (see note A)	H_2S	1.56	
P004 – West Flare “C-Valve” Vent Gas	H_2S	0.00	
P004 – West Flare Vent Gas	Total Sulfur	1.51	
P004 – West Flare “C-Valve” Vent Gas	Total Sulfur	4.40	
B036 – Reformer 3 Furnace	NOx	0.00	
P007 – FCCU/CO Boiler Bypass (see note B)	CO	0.00	
P007 – FCCU/CO Boiler Bypass (see note B)	NOx	0.00	
P007 – FCCU/CO Boiler Bypass (see note B)	SO_2	0.00	
P007 – CO Boiler Exhaust	CO	1.01	
P007 – CO Boiler Exhaust	NOx	1.01	
P007 – CO Boiler Exhaust	SO_2	1.01	
P009 - Sulfur Recovery Unit with #1	SO_2	0.48	
P037 - Sulfur Recovery Units #2 & #3	SO_2	0.46	
B034 – East Alstom Boiler (see note C)	NOx	0.13	
B035 – West Alstom Boiler (see note C)	NOx	0.09	

Note A: P003/P004 East & West Flare
The attached H_2S tables identify all emissions in excess of the Subpart Ja H_2S limit of 162 ppm_v on a 3-hour rolling average. If an event did not occur for 3 consecutive hours, then it does not meet the 3-hour averaging requirement and therefore is not considered excess emissions. If a 3-hour event exceeds the 100,000 ppm_v span limit of the H_2S CMS, then the Total Sulfur analyzer data was used for the H_2S value.

Note B: P007 – FCCU/CO Boiler Bypass
The purpose of these CEMS are to continuously monitor the listed (CO, NOx, & SO_2) emissions from the FCCU Regenerator exhaust in the event of a CO Boiler bypass while there is feed to the FCCU. Otherwise, compliance with the listed limits for the FCCU is determined from continuous emissions monitoring of the CO Boiler Exhaust stack. Although this source is not subject to 40 CFR Part 60, Section C.12.(d)(7) of P0104782 (as set forth by Permits-to-Install 04-01290 and P0105902) requires monitoring per 40 CFR Part 60.11. As

noted in Section C.12.(e)(4) of P0104782, the refinery has opted to follow the reporting requirements under 40 CFR 60.7. 40 CFR 60.7(c) requires the submission of an Excess Emissions and Monitoring Systems Performance Report and Summary Report Form.

Note C: B034/B035 East & West Alstom Boiler
The attached data tables include supplemental reporting for NOx CEMS records required by 40CFR49b(i).

During the 2nd quarter the TIU Mix Drum Total Sulfur CEMS was down for 96 hours due to a drift test failing on the analyzer. The Coker 3 Furnace was offline during the TRP Amine Treater outage and then had an additional unplanned outage due to a mechanical issue upon startup which kept the furnace offline until April 23, 20201; these outages resulted in reduced operating time for the quarter. As the furnace uses the fuel gas from the TIU Mix Drum, the 96 hours along with the reduced operating time of the heater resulted in greater than 5% downtime only for the Coker 3 Furnace.

Details of all downtime or excess emission incidents are provided in the summary tables in Attachment A.

Data Assessment Report (Attachment B)

In accordance with the terms and conditions of their permits, Attachment B includes the Continuous Emission Monitor (CEM) Data Assessment Report (DAR) for this quarter. Table 2 below is a summary of Cylinder Gas Audits conducted this quarter. Where noted in Table 2, Relative Accuracy Test Audits (RATAs) were conducted this quarter; these reports were submitted previously via Air Services.

Table 2. Cylinder Gas Audit Summary

Location/Emission Unit	Parameter	Notes
East Side Fuel Gas Mix Drum (B008, B009, B010)	H2S	
TIU Fuel Gas Mix Drum (B015, B017, B019, B022, B029, B030, B031, B032, B033, B034, B035, P007)	H_2S	
B036 - Reformer 3 Heater H2S CMS	H_2S	
P003 - East Flare	H_2S	
P004 - West Flare	H_2S	
P003 - East Flare (low & high ranges)	Total Sulfur	
P004 - West Flare (low & high ranges)	Total Sulfur	
TIU Fuel Gas Mix Drum (B015, B017, B019, B022, B029, B030, B031, B032, B033, B034, B035, P007)	Total Sulfur	
B036 - Reformer 3 NOx/O2 CEMS	NOx, O_2	RATA
B034 - East Alstom Boiler	NOx, O_2	RATA
B035 - West Alstom Boiler	NOx, O_2	RATA
P007 - FCCU/CO Boiler	SO_2, NOx, CO, O_2	RATA
P007 - FCC Regen Line	SO_2, NOx, CO, CO_2, O_2	RATA
P009 - SRU #1	SO_2, O_2	RATA
P037 - SRU #2 & #3 (TRP SRU)	SO_2, O_2	RATA

The DAR also includes out-of-control (OOC) times for the FCCU/CO Boiler CO CEMS, FCC Regen Line CO, O_2, & CO_2 CEMS, the SRU#1 SO_2 & O_2 CEMS, and the TRP SRU SO_2 & O_2 CEMS based on the OOC requirements defined by the MACT general requirements, 40 CFR Part 63.8(c)(7).

If you have any questions concerning this report, please contact Ashley Zapp (ashley.zapp@bp.com or 567-698-4410), or Cameron Loth (cameron.loth@bp.com or 567-698-4833).

Based on information and belief formed after reasonable inquiry, the statements and information in this report are true, accurate, and complete.

Sincerely,

DocuSigned by:
Des Gillen
90F20640AD13450...

Des Gillen
President - BP-Husky Refining LLC

Attachment A – CMS Summary Report
Attachment B – Data Assessment Report

Attachment A – CMS Summary Report

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 6/17/2021

Process Unit(s) Description: Crude 1 Furnace (0448020007B015)

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	3	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	3	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.14	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 6/17/2021

Process Unit(s) Description: Coker 2 Furnace (0448020007B017)

Total Source Operating Time in Reporting Period[2]: 1,935 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	3	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	3	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.16	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 6/17/2021

Process Unit(s) Description: Crude Vac 2 Furnace (0448020007B019)

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	3	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	3	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.14	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 6/17/2021

Process Unit(s) Description: Naphtha Treater Furnace (0448020007B022)

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	3	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	3	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.14	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 6/17/2021

Process Unit(s) Description: DHT A-Train Furnace (0448020007B029)

Total Source Operating Time in Reporting Period[2]: 2,184 hr (TIU fuel gas was combusted for 1,869 hours and natural gas was combusted for 315 hours for a total of 2,184 hours this quarter)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	3	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	3	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.14	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 6/17/2021

Process Unit(s) Description: BGOT Furnace (0448020007B030)

Total Source Operating Time in Reporting Period[2]: 2,184 hr (TIU fuel gas was combusted for 1,869 hours and natural gas was combusted for 315 hours for a total of 2,184 hours this quarter)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	3	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	3	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.14	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 6/17/2021

Process Unit(s) Description: Vac 1 Furnace (0448020007B031)

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	3	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	3	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.14	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 6/17/2021

Process Unit(s) Description: Coker 3 Furnace (0448020007B032)

Total Source Operating Time in Reporting Period[2]: 1,645 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	3	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	3	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.18	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

DocuSigned by:

Signature: Des Gillen

90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** April 1, 2021 **To:** June 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 6/17/2021

Process Unit(s) Description: East BGOT Furnace (0448020007B033)

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	3	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	3	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.14	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 6/17/2021

Process Unit(s) Description: East Alstom Boiler (0448020007B034)

Source Operating Time in Reporting Period[2]: 1,482 hr (TIU fuel gas was combusted for 43 hours and natural gas was combusted for 1,439 hours for a total of 1,482 hours this quarter)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assu s	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable- no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 6/17/2021

Process Unit(s) Description: West Alstom Boiler (0448020007B035)

Total Source Operating Time in Reporting Period[2]: 2,184 hr (TIU fuel gas was combusted for 1,850 hours and natural gas was combusted for 334 hours for a total of 2,184 hours this quarter)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	3	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	3	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.14	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

The West Alstom Boiler combusted a combination of natural gas and TIU Mix Drum fuel gas this quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 6/17/2021

Process Unit(s) Description: FCC/CO Boiler (0448020007P007)

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	3	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	3	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.14	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - TIU MIX DRUM H2S CMS REPORT FOR 2ND QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
				DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
	Quarterly	Semi-Annual		Date / Time Start	Date / Time End						
B015 - Crude 1 Furnace; **B019 -** Crude 2 Furnace; **B022 -** Naphtha Treater Furnace; **B029 -** DHT A - Train Furnace **B030 -** DHT B - Train Furnace; **B031 -** Vac 1 Furnace; **B032 -** Coker 3 Furnace **B033 -** East BGOT Furnace; **B034 -** East Alstom Boiler; **B035 -** West Alstom Boiler; **P007-** FCC/CO Boiler	Yes	No	Continuous Monitoring System	5/4/21 11:00	5/4/21 14:00	CEMS excess emissions for 3 hours.	An upset in the coker gas plant resulted in amine carryover into the sweet knockout drum and TIU fuel gas mix drum	Coker rates were reduced to help reduce gas flow which reduced the flooding in the bulk amine contactor.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 34.53 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 6/18/2021

Process Unit(s) Description: Crude 1 Furnace (0448020007B015)

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	96
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	96
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	4.40

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 21.02 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 6/18/2021

Process Unit(s) Description: Crude Vac 2 Furnace (0448020007B019)

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	96
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	96
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	4.40

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 6.45 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 6/18/2021

Process Unit(s) Description: Naphtha Treater Furnace (0448020007B022)

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	96
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	96
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	4.40

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 2.32 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 6/18/2021

Process Unit(s) Description: DHT A-Train Furnace (0448020007B029)

Total Source Operating Time in Reporting Period[2]: 2,184 hr (TIU fuel gas was combusted for 1,869 hours and natural gas was combusted for 315 hours for a total of 2,184 hours this quarter)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	96
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	96
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	4.40

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 3.86 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 6/18/2021

Process Unit(s) Description: BGOT Furnace (0448020007B030)

Total Source Operating Time in Reporting Period[2]: 2,184 hr (TIU fuel gas was combusted for 1,869 hours and natural gas was combusted for 315 hours for a total of 2,184 hours this quarter)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	96
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	96
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	4.40

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 11.62 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 6/18/2021

Process Unit(s) Description: Vac 1 Furnace (0448020007B031)

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	96
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	96
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	4.40

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 20.46 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 6/18/2021

Process Unit(s) Description: Coker 3 Furnace (0448020007B032)

Total Source Operating Time in Reporting Period[2]: 1,645 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	96
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	96
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	5.83

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

Excess Emission and Monitoring System Performance Report
Coker 3 Furnace CEMS Report (Source # B032)
2Q 2021

In accordance with the applicable PTIs for this source, written reports of excess emissions shall include the following information:

1. The magnitude of excess emissions computed in accordance with §60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

There were no periods of excess emissions for this CEMS.

2. Specific identification of each period of excess emissions that occurs during start-ups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

There were no periods of excess emissions for this CEMS.

3. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

The Coker 3 Furnace operated for a total of 1,645 hours in 2Q. There were two periods of downtime for the quarter while the source was in operation listed below:

- Start time: 5/6/2021 7:00
  End time: 5/8/2021 7:00
  Duration: 48 hours

- Start time: 5/9/2021 7:00
  End time: 5/11/2021 7:00
  Duration: 48 hours

  During these two periods of downtime, Vivicom did not run the daily drift test. These results were reported as incomplete in the system. Once the issue was identified, the analyzer was recalibrated and returned to service. To identify the issue more quickly in the future, the Refinery contacted Vivicom to add a flag to identify an incomplete validation on the face plate screen.

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 3.86 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 6/18/2021

Process Unit(s) Description: East BGOT Furnace (0448020007B033)

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	96
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	96
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	4.40

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 3.86 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 6/18/2021

Process Unit(s) Description: East Alstom Boiler (0448020007B034) and West Alstom Boiler (0448020007B035)

Source Operating Time in Reporting Period[2]: 2,184 hr (TIU fuel gas was combusted for 1,893 hours in at least one of the Alstom Boilers for the quarter. Natural gas was combusted for 291 hours in both Alstom Boilers for the quarter.)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	96
c. Process Problems	0	c. Quality assu s	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	96
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	4.40

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

The East Alstom Boiler combusted a combination of natural gas and TIU Mix Drum fuel gas this quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - TIU MIX DRUM TS CMS REPORT FOR 2ND QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
				DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
	Quarterly	Semi-Annual		Date / Time Start	Date / Time End						
B015 - Crude 1 Furnace; **B022 -** Naphtha Treater Furnace; **B029 -** DHT A - Train Furnace **B030 -** DHT B - Train Furnace; **B031 -** Vac 1 Furnace; **B032 -** Coker 3 Furnace **B033 -** East BGOT Furnace; **B035 -** West Alstom Boilers; **P007-** FCC/CO Boiler	Yes	No	Continuous Monitoring System	5/6/21 7:00	5/8/21 7:00	CEMS downtime for 48 hours.	Vivicom did not run the daily drift test. Reported as incomplete.	Contacted Vivicom to add a flag to identify an incomplete validation on the face plate screen. Recalibrated and returned analyzer to service.	No	N/A	N/A
B015 - Crude 1 Furnace; **B022 -** Naphtha Treater Furnace; **B029 -** DHT A - Train Furnace **B030 -** DHT B - Train Furnace; **B031 -** Vac 1 Furnace; **B032 -** Coker 3 Furnace **B033 -** East BGOT Furnace; **B035 -** West Alstom Boilers; **P007-** FCC/CO Boiler	Yes	No	Continuous Monitoring System	5/9/21 7:00	5/11/21 7:00	CEMS downtime for 48 hours.	Vivicom did not run the daily drift test. Reported as incomplete.	Contacted Vivicom to add a flag to identify an incomplete validation on the face plate screen. Recalibrated and returned analyzer to service.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30028039490020

Date of Latest CMS Certification or Audit: 6/14/2021

Process Unit(s) Description: Iso 2 Feed Heater (0448020007B008)

Total Source Operating Time in Reporting Period[2]: 2,153 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30028039490020

Date of Latest CMS Certification or Audit: 6/14/2021

Process Unit(s) Description: Iso 2 Stabilizer Reboiler (0448020007B009)

Total Source Operating Time in Reporting Period[2]: 2,142 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30028039490020

Date of Latest CMS Certification or Audit: 6/14/2021

Process Unit(s) Description: Iso 2 Splitter Reboiler (0448020007B010)

Total Source Operating Time in Reporting Period[2]: 2,109 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - EAST SIDE MIX DRUM H2S CMS REPORT FOR 2ND QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
B008 - Iso 2 Feed Heater **B009** - Iso 2 Stabilizer Reboiler **B010** - Iso 2 Splitter Reboiler	Yes	No	Continuous Monitoring System	No downtime or excess emissions during this reporting quarter.							

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H_2S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30028039490020

Date of Latest CMS Certification or Audit: 6/14/2021

Process Unit(s) Description: Reformer 3 Furnace (0448020007B036)

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 162 ppmv H_2S in fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30029994471080

Date of Latest CMS Certification or Audit: 6/14/2021

Process Unit(s) Description: Reformer 3 Furnace (0448020007B036)

Total Source Operating Time in Reporting Period[2]: 2,184 hr (Reformer 3 fuel gas was combusted for 2,184 hours and natural gas was combusted for 0 hours for a total of 2,184 hours this quarter)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 60 ppmv H_2S in fuel gas on a 365-day rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30029994471080

Date of Latest CMS Certification or Audit: 6/14/2021

Process Unit(s) Description: Reformer 3 Furnace (0448020007B036)

Total Source Operating Time in Reporting Period[2]: 2,184 hr (Reformer 3 fuel gas was combusted for 2,184 hours and natural gas was combusted for 0 hours for a total of 2,184 hours this quarter)

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.0

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen DocuSigned by:

Signature: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - REFORMER 3 FURNACE H2S CMS REPORT FOR 2ND

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
B036 - Reformer 3 Furnace	Yes	No	Continuous Monitoring System	No downtime or excess emissions during this reporting quarter.							

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 162 ppmv H_2S in fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30050531960100

Date of Latest CMS Certification or Audit: 6/9/2021

Process Unit(s) Description: East Flare (0448020007P003)

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	2	d. Other known causes	1
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	2	2. Total CMS Downtime	1
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.09	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.05

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - EAST FLARE H2S CMS REPORT FOR 2ND QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P003 - East Flare	No	Yes	Continuous Monitoring System	5/9/21 20:00	5/9/21 22:00	CEMS excess emissions for 2 hours.	Lost to power to iso triggering emergency shutdown	Operational moves were made to minimize the impacts of the emergency ISO shutdown. The refinery reestablished power to the ISO unit and were able to susscfully restart the East side flare gas recovery compressors and begin fully recovering gases.	No	N/A	N/A
P003 - East Flare	Yes	No	Continuous Monitoring System	4/5/21 13:00	4/5/21 14:00	CEMS downtime for 1 hour.	check sample flow following flaring event	Completed the maintenance, Sample flow confirmed good, returned to service.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: NA - Analyzer used to calculate SO_2 emissions

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-10430115

Date of Latest CMS Certification or Audit: TS Low: 6/08/2021; TS High: 6/08/2021

Process Unit(s) Description: East Flare (0448020007P003)

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	NA	a. Monitor equipment malfunctions	26
b. Control equipment problems	NA	b. Non-monitor equipment malfunctions	0
c. Process Problems	NA	c. Quality assurance calibration	0
d. Other known causes	NA	d. Other known causes	6
e. Unknown causes	NA	e. Unknown causes	0
2. Total duration of excess emissions	NA	2. Total CEMS Downtime	32
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	NA	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	1.47

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - EAST FLARE TS CMS REPORT FOR 2ND QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P003 - East Flare	No	Yes	Continuous Monitoring System	4/18/21 8:00	4/19/21 10:00	CEMS downtime for 26 hours	Analyzer failed low range span drift test. Low calibration gas did not appear to inject.	Tech checked cal gas flows, sample/cal valve operation. Recalibrated and returned analyzer to service.	No	N/A	N/A
P003 - East Flare	No	Yes	Continuous Monitoring System	4/21/21 10:00	4/21/21 15:00	CEMS downtime for 5 hours.	Replaced sample valving	Recalibrated and returned the analyzer to service	No	N/A	N/A
P003 - East Flare	No	Yes	Continuous Monitoring System	4/7/21 10:00	4/7/21 11:00	CEMS downtime for 1 hour.	High level drift	Recalibrated and returned the analyzer to service	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 162 ppmv H_2S in fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30050531960400

Date of Latest CMS Certification or Audit: 6/2/2021

Process Unit(s) Description: West Flare Vent Gas (0448020007P004)

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	25
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	4	d. Other known causes	9
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	4	2. Total CMS Downtime	34
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.18	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	1.56

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: H_2S

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 162 ppmv H_2S in fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 6/17/2021

Process Unit(s) Description: West Flare C Valve (0448020007P004)

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	NA	a. Monitor equipment malfunctions	0
b. Control equipment problems	NA	b. Non-monitor equipment malfunctions	0
c. Process Problems	NA	c. Quality assurance calibration	0
d. Other known causes	NA	d. Other known causes	0
e. Unknown causes	NA	e. Unknown causes	0
2. Total duration of excess emissions	NA	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	NA[4]	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

[4] Excess emissions are reported in the West Flare Vent Gas section, and are not included in this section to avoid double counting.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - WEST FLARE H2S CMS REPORT FOR 2ND QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
				DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
	Quarterly	Semi-Annual		Date / Time Start	Date / Time End						
P004 - West Flare	No	Yes	Continuous Monitoring System	4/17/21 7:00	4/18/21 8:00	CEMS downtime for 25 hours	Analyzer failed daily drift test.Moisture present in sample system due to operational failure.	Dried the sample system panel with N2, checked, recalibrated, and returned analyzer to service	No	N/A	N/A
P004 - West Flare	Yes	No	Continuous Monitoring System	4/26/21 10:00	4/26/21 14:00	CEMS downtime for 4 hours.	Monthly PM completed	Completed the PM and returned analyzer to service.	No	N/A	N/A
P004 - West Flare	Yes	No	Continuous Monitoring System	6/3/21 10:00	6/3/21 15:00	CEMS downtime for 5 hours.	Calibrated ahead of CGA test. Inadvertenlty left in span	Tech took it out of span and completed the validation.	No	N/A	N/A
P004 - West Flare	Yes	No	Continuous Monitoring System	5/9/21 15:00	5/9/21 19:00	CEMS excess emissions for 4 hours.	Lost to power to iso triggering emergency shutdown	Operational moves were made to minimize the impacts of the emergency ISO shutdown. The refinery reestablished power to the ISO unit and were able to susscfully restart the East side flare gas recovery compressors and begin fully recovering gases.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: NA - Analyzer used to calculate SO2 emissions

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-10440115

Date of Latest CMS Certification or Audit: TS Low: 6/07/2021; TS High: 6/07/2021

Process Unit(s) Description: West Flare Vent Gas (0448020007P004)

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	NA	a. Monitor equipment malfunctions	30
b. Control equipment problems	NA	b. Non-monitor equipment malfunctions	0
c. Process Problems	NA	c. Quality assurance calibration	0
d. Other known causes	NA	d. Other known causes	3
e. Unknown causes	NA	e. Unknown causes	0
2. Total duration of excess emissions	NA	2. Total CEMS Downtime	33
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	NA	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	1.51

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: Total Sulfur

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: NA - Analyzer used to calculate SO2 emissions

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 6/18/2021

Process Unit(s) Description: West Flare C Valve (0448020007P004)

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	NA	a. Monitor equipment malfunctions	0
b. Control equipment problems	NA	b. Non-monitor equipment malfunctions	96
c. Process Problems	NA	c. Quality assurance calibration	0
d. Other known causes	NA	d. Other known causes	0
e. Unknown causes	NA	e. Unknown causes	0
2. Total duration of excess emissions	NA	2. Total CEMS Downtime	96
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	NA	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	4.40

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

DocuSigned by:

Signature: Des Gillen

90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - WEST FLARE TS CMS REPORT FOR 2ND QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
				DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
	Quarterly	Semi-Annual		Date / Time Start	Date / Time End						
P004 - West Flare	Yes	No	Continuous Monitoring System	4/4/21 7:00	4/4/21 9:00	CEMS downtime for 2 hours.	Found the low span calibration cylinder regulator set point low.	The tech set the regulator pressure to the proper PSI. Reacalibrated and returned analyzer to service.	No	N/A	N/A
P004 - West Flare	Yes	No	Continuous Monitoring System	4/28/21 7:00	4/29/21 11:00	CEMS downtime for 28 hours	Sample cell power supply failed	Replaced power supply, recalibrated, and returned to service	No	N/A	N/A
P004 - West Flare	Yes	No	Continuous Monitoring System	4/29/21 16:00	4/30/21 11:00	CEMS out-of-control time for 19 hours.	Analyzer failed daily validation	Recalibrated and returned the analyzer to service	No	N/A	N/A
P004 - West Flare	No	Yes	Continuous Monitoring System	4/28/21 7:00	4/29/21 6:00	CEMS out-of-control time for 23 hours.	Analyzer failed daily validation	Recalibrated and returned the analyzer to service	No	N/A	N/A
P004 - West Flare	No	Yes	Continuous Monitoring System	4/3/21 7:00	4/4/21 9:00	CEMS out-of-control time for 26 hours.	Analyzer failed daily validation	Recalibrated and returned the analyzer to service	No	N/A	N/A
P004 - West Flare	No	Yes	Continuous Monitoring System	4/8/21 11:00	4/8/21 12:00	CEMS downtime for 1 hour.	High level drift	Recalibrated and returned the analyzer to service	No	N/A	N/A
P004 - West Flare	No	Yes	Continuous Monitoring System	4/30/21 9:00	4/30/21 11:00	CEMS downtime for 1 hour.	Additional calibration checks following the maintenance conducted on 4/29	Completed checks and returned to service.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: NOx

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 40 ppm_{vd} (30-day rolling average)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2

Date of Latest CEMS Certification or Audit: 5/18/2021

Process Unit(s) Description: Reformer 3 Furnace (0448020007B036)

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.00

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CEMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - REFORMER 3 FURNACE NOx CEMS REPORT FOR 2ND QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
B036 - Reformer 3 Furnace	Yes	No	Continuous Emission Monitoring System (CEMS)	No downtime or excess emissions during this reporting quarter.							

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: CO

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 500 ppmv CO, db, 1-hr average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB URAS 14, SN: 3.240684.3

Date of Latest CEMS Certification or Audit: 5/19/2021

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 0 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours. hours of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.
Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC REGEN VENT CO CEMS REPORT 2ND QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
				DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
	Quarterly	Semi-Annual		Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	Bypass Stack not in operation during the quarter, therefore no excess emissions or part 60 CEMS downtime to report.							

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: NOx

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 58.1 ppmv NOx db @ 0% O2 (365-day rolling avg)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240682.3

Date of Latest CEMS Certification or Audit: 5/19/2021

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 0 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours. hours of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: NOx

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 93.4 ppmv NOx db @ 0% O2 (7-day rolling avg)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240682.3

Date of Latest CEMS Certification or Audit: 5/19/2021

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 0 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours. hours of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC REGEN VENT NOx CEMS REPORT 2ND QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	Bypass Stack not in operation during the quarter, therefore no excess emissions or part 60 CEMS downtime to report.							

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 260 ppmvd SO2 at 0% excess O2 as a rolling 7-day average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240685.3

Date of Latest CEMS Certification or Audit: 5/19/2021

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 0 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours. hours of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 160 ppmvd SO2 at 0% excess O2 as a rolling 365-day average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240685.3

Date of Latest CEMS Certification or Audit: 5/19/2021

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 0 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours. hours of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 1,020 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240685.3

Date of Latest CEMS Certification or Audit: 5/19/2021

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 0 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours. hours of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

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Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.92 lb SO2 per 1000 lb of fresh feed

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240685.3

Date of Latest CEMS Certification or Audit: 5/19/2021

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 0 hr

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.00

2 Record all times in hours. hours of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC REGEN VENT SO2 CEMS REPORT 2ND QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
				DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
	Quarterly	Semi-Annual		Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	Bypass Stack not in operation during the quarter, therefore no excess emissions or part 60 CEMS downtime to report.							

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: CO

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 500 ppmv CO, db, 1-hr average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB URAS 26, SN: 3.347698.3

Date of Latest CEMS Certification or Audit: 5/20/2021

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	1
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	19
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	2
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	22
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. Total CEMS Downtime] x (100) / [Total source operating time] %[3]	1.01

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC/CO BOILER CO CEMS REPORT 2ND QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	4/29/21 10:00	4/29/21 11:00	CEMS downtime for 1 hour.	Replaced sample cooler	Recalibrated and returned the analyzer to service	No	N/A	N/A
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	5/19/21 14:00	5/19/21 15:00	CEMS downtime for 1 hour.	Maintenance checks before RATA	Completed calibrations	No	N/A	N/A
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	5/19/21 16:00	5/19/21 17:00	CEMS downtime for 1 hour.	Maintenance checks before RATA	Completed calibrations	No	N/A	N/A
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	4/16/21 10:00	4/16/21 14:00	CEMS downtime for 4 hours.	The shelter's heater thermostat failed causing the analyzer to over heat and trip.	Repaired the analyzer shelter heating system.	No	N/A	N/A
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	4/15/21 18:00	4/16/21 9:00	CEMS downtime for 15 hours.	The shelter's heater thermostat failed causing the analyzer to over heat and trip.	Repaired the analyzer shelter heating system.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: NOx

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 93.4 ppmv NOx db @ 0% O2 (7-day rolling avg)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 5/20/2021

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	1
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	19
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	2
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	22
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	1.01

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: NOx

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 58.1 ppmv NOx db @ 0% O2 (365-day rolling avg)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 5/20/2021

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	1
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	19
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	2
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	22
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	1.01

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC/CO BOILER NOx CEMS REPORT 2ND QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
				DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
	Quarterly	Semi-Annual		Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	4/16/21 10:00	4/16/21 14:00	CEMS downtime for 4 hours.	The shelter's heater thermostat failed causing the analyzer to over heat and trip.	Repaired the analyzer shelter heating system.	No	N/A	N/A
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	4/29/21 10:00	4/29/21 11:00	CEMS downtime for 1 hour.	Replaced sample cooler	Recalibrated and returned the analyzer to service	No	N/A	N/A
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	5/19/21 14:00	5/19/21 15:00	CEMS downtime for 1 hour.	Maintenance checks before RATA	Completed calibrations	No	N/A	N/A
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	5/19/21 16:00	5/19/21 17:00	CEMS downtime for 1 hour.	Maintenance checks before RATA	Completed calibrations	No	N/A	N/A
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	4/15/21 18:00	4/16/21 9:00	CEMS downtime for 15 hours.	The shelter's heater thermostat failed causing the analyzer to over heat and trip.	Repaired the analyzer shelter heating system.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 260 ppmvd SO2 at 0% excess O2 as a rolling 7-day average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 5/20/2021

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	1
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	19
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	2
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	22
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	1.01

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 160 ppmvd SO2 at 0% excess O2 as a rolling 365-day average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 5/20/2021

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	1
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	19
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	2
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	22
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	1.01

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Not Applicable - No changes since the previous quarter.

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Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 1,020 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 5/20/2021

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	1
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	19
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	2
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	22
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	1.01

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

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Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 0.92 lb SO2 per 1000 lb of fresh feed

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 5/20/2021

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	1
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	19
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	2
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	22
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	1.01

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC/CO BOILER SO2 CEMS REPORT 2ND QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	4/16/21 10:00	4/16/21 14:00	CEMS downtime for 4 hours.	The shelter's heater thermostat failed causing the analyzer to over heat and trip.	Repaired the analyzer shelter heating system.	No	N/A	N/A
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	4/29/21 10:00	4/29/21 11:00	CEMS downtime for 1 hour.	Replaced sample cooler	Recalibrated and returned the analyzer to service	No	N/A	N/A
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	5/19/21 14:00	5/19/21 15:00	CEMS downtime for 1 hour.	Maintenance checks before RATA	Completed calibrations	No	N/A	N/A
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	5/19/21 16:00	5/19/21 17:00	CEMS downtime for 1 hour.	Maintenance checks before RATA	Completed calibrations	No	N/A	N/A
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	4/15/21 18:00	4/16/21 9:00	CEMS downtime for 15 hours.	The shelter's heater thermostat failed causing the analyzer to over heat and trip.	Repaired the analyzer shelter heating system.	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 250 ppm SO_2 dry, 0% excess O_2 (12-hour average)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Ametek Model 919, SN: ZB-919SP-10541-1

Date of Latest CEMS Certification or Audit: 5/28/2021

Process Unit(s) Description: #1 Claus Sulfur Recovery Unit with SCOT Unit (0448020007P009)

Total Source Operating Time in Reporting Period[2]: 1,890 hr

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	4
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	5
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	9
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.48

[2] Record all times in minutes.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC SRU #1 SO2 CEMS REPORT FOR 2ND QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P009 - Sulfur Recovery Unit #1	Yes	No	Continuous Emission Monitoring System (CEMS)	5/27/21 15:00	5/27/21 18:00	CEMS downtime for 3 hours.	Calibration checks ahead of RATA testing	Completed calibrations	No	N/A	N/A
P009 - Sulfur Recovery Unit #1	Yes	No	Continuous Emission Monitoring System (CEMS)	6/28/21 10:00	6/28/21 14:00	CEMS downtime for 4 hours.	Leak in sample system	Replaced gasket at sample probe, recalibrated, and returned to service	No	N/A	N/A
P009 - Sulfur Recovery Unit #1	Yes	No	Continuous Emission Monitoring System (CEMS)	5/25/21 13:00	5/25/21 14:00	CEMS downtime for 1 hour.	Calibration ahead of RATA	Completed calibrations	No	N/A	N/A
P009 - Sulfur Recovery Unit #1	Yes	No	Continuous Emission Monitoring System (CEMS)	5/27/21 8:00	5/27/21 9:00	CEMS downtime for 1 hour.	Calibration ahead of RATA testing	Completed calibrations	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: SO_2

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Emission Limitation: 250 ppm SO_2 dry, 0% excess O_2 (12-hour average)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Ametek Model 919 and WDG-V, SN: ZX-919-10814-1

Date of Latest CEMS Certification or Audit: 5/26/2021

Process Unit(s) Description: Sulfur Recovery Units # 2 & #3 with TGT #2 (0448020007P037)

Total Source Operating Time in Reporting Period[2]: 2,184 hr

Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	10
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	10
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0.00	3. [Total CEMS Downtime] x (100) / [Total source operating time] %[3]	0.46

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CEMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

Additional Information Required under PTI # 04-1046

1. **Total SO_2 emissions during calendar quarter (in tons), including any excess emissions attributed to the malfunction, startup, or shutdown of emissions unit P037. (ST&C III.A.iii)**

   Total SO_2 emissions from the TRP SRUs during the period April 1, 2021 through June 30, 2021 were calculated at 8.6 tons.

2. **Total operating time of the CEMS while either SRU was online. (ST&C III.A.iii)**

   During the quarter, the total source operating time while either or both SRUs were in service was 2,184 hours. The CEMS was online and monitoring for 2,174 hours while either SRU was in service.

   During the quarter, there was one (1) period of CEMS downtime for a total duration of 10 hours. Details of these events are summarized in the table attached.

3. **Quantification of emissions routed from the SRU to the flare beginning with activation of the relief valve until the release is over. (ST&C VII.A)**

   For the 2nd quarter, there were no periods during the quarter when acid gas was sent to the TRP Acid Gas flare.

BP-HUSKY REFINING LLC SRU #2 & SRU #3 SO2 CEMS REPORT FOR 2ND QUARTER 2021

EMISSIONS UNIT ID / Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P037 - Sulfur Recovery Units #2 & #3	Yes	No	Continuous Emission Monitoring System (CEMS)	6/7/2021 22:00	6/8/2021 8:00	CEMS downtime for 10 hours.	Communication failure with ADM	Recalibrated and returned the analyzer to service	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: NOx

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2

Monitor Location: Sample port on East Alstom Boiler Stack; monitor housed at ground level in an analyzer building adjacent the boiler.

Date of Latest CMS Cert or Audit: 5/13/2021

Process Unit(s) Description: East Alstom Boiler (0448020007B034)

Total Source Operating Time in Reporting Period: 1,482 hr (TIU fuel gas was combusted for 43 hours and natural gas was combusted for 1,439 hours for a total of 1,482 hours this quarter)

CMS operating time while emission unit was in operation: 1,480 hr

Emission Limitation: 12.71 lb/hr of NO_x emissions;
38.5 tons/rolling 12-month period of NO_x emissions (combined B034 & B035);
0.10 lb NO_x (as NO_2) per mmBtu heat input 30-day rolling average

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	2
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	2
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.13

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - No changes since last quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

East Alstom Boiler - 2nd Quarter 2021 Db Data

NSPS Db: Supplemental Reporting for NO_x CEM Records as required by 40 CFR 49b(i)

This table contains the information required by 60.49(g)(1-8).
Records for (g)(9-10) are provided in the NSPS Quarterly CEMS Report.

East Alstom Boiler (B034): 353 MMBtu/hr heater fired with refinery fuel gas and/or natural gas

Calculation Methodology: NO_x emissions (lb/mmbtu) calculated from NO_x CEM (ppm) using Methodology in 40 CFR 60 Appendix A Method 19 and F factor of 8710 dscf/mmbtu from Method 19 Table 19-1 when natural gas fired; site-specific F factor determined from fuel analysis when refinery fuel gas fired.

NSPS Limit: 0.10 lb NO_x/MMBtu

Date	Hourly daily average NOx (lb/MMBtu)	30-day rolling average NOx (lb/MMBtu)	Excess Emissions (yes/no)	NOx Conc Exceeded CEM Span? (yes/no)	Comments: Reason for Missing or Invalid Data, or Excess Emissions
4/1/2021	0.020	0.019	No	No	
4/2/2021	0.020	0.019	No	No	
4/3/2021	0.021	0.019	No	No	
4/4/2021	0.020	0.019	No	No	
4/5/2021	0.020	0.019	No	No	
4/6/2021	0.020	0.019	No	No	
4/7/2021	0.019	0.019	No	No	
4/8/2021	0.017	0.019	No	No	
4/9/2021	0.019	0.019	No	No	
4/10/2021	0.019	0.019	No	No	
4/11/2021	0.019	0.019	No	No	
4/12/2021	0.019	0.019	No	No	
4/13/2021	0.026	0.019	No	No	
4/14/2021	0.028	0.019	No	No	
4/15/2021	0.023	0.019	No	No	
4/16/2021	0.023	0.020	No	No	
4/17/2021	0.023	0.020	No	No	
4/18/2021	0.026	0.020	No	No	
4/19/2021	0.027	0.020	No	No	
4/20/2021	0.026	0.020	No	No	
4/21/2021	0.027	0.020	No	No	
4/22/2021	0.028	0.021	No	No	
4/23/2021	0.025	0.021	No	No	
4/24/2021	0.018	0.021	No	No	
4/25/2021	0.017	0.021	No	No	
4/26/2021	0.020	0.021	No	No	
4/27/2021	0.022	0.021	No	No	
4/28/2021	0.027	0.022	No	No	
4/29/2021	0.016	0.022	No	No	
4/30/2021	0.015	0.022	No	No	
5/1/2021	0.020	0.022	No	No	
5/2/2021	0.023	0.022	No	No	
5/3/2021	0.019	0.022	No	No	
5/4/2021	0.016	0.021	No	No	
5/5/2021	0.018	0.021	No	No	
5/6/2021	0.020	0.021	No	No	
5/7/2021	0.015	0.021	No	No	
5/8/2021	--	0.021	No	No	Boiler Not in Operation
5/9/2021	--	0.021	No	No	Boiler Not in Operation
5/10/2021	--	0.022	No	No	Boiler Not in Operation
5/11/2021	--	0.022	No	No	Boiler Not in Operation
5/12/2021	--	0.022	No	No	Boiler Not in Operation
5/13/2021	--	0.022	No	No	Boiler Not in Operation
5/14/2021	--	0.021	No	No	Boiler Not in Operation
5/15/2021	--	0.021	No	No	Boiler Not in Operation
5/16/2021	--	0.021	No	No	Boiler Not in Operation
5/17/2021	--	0.021	No	No	Boiler Not in Operation
5/18/2021	--	0.021	No	No	Boiler Not in Operation
5/19/2021	--	0.021	No	No	Boiler Not in Operation
5/20/2021	--	0.020	No	No	Boiler Not in Operation
5/21/2021	--	0.020	No	No	Boiler Not in Operation
5/22/2021	--	0.019	No	No	Boiler Not in Operation
5/23/2021	--	0.019	No	No	Boiler Not in Operation
5/24/2021	--	0.019	No	No	Boiler Not in Operation
5/25/2021	--	0.019	No	No	Boiler Not in Operation
5/26/2021	--	0.019	No	No	Boiler Not in Operation

Date	Hourly daily average NOx (lb/MMBtu)	30-day rolling average NOx (lb/MMBtu)	Excess Emissions (yes/no)	NOx Conc Exceeded CEM Span? (yes/no)	Comments: Reason for Missing or Invalid Data, or Excess Emissions
5/27/2021	--	0.019	No	No	Boiler Not in Operation
5/28/2021	--	0.018	No	No	Boiler Not in Operation
5/29/2021	--	0.018	No	No	Boiler Not in Operation
5/30/2021	--	0.019	No	No	Boiler Not in Operation
5/31/2021	--	0.018	No	No	Boiler Not in Operation
6/1/2021	--	0.018	No	No	Boiler Not in Operation
6/2/2021	--	0.017	No	No	Boiler Not in Operation
6/3/2021	--	0.017	No	No	Boiler Not in Operation
6/4/2021	--	0.017	No	No	Boiler Not in Operation
6/5/2021	0.031	0.023	No	No	
6/6/2021	0.025	0.028	No	No	
6/7/2021	0.023	0.026	No	No	
6/8/2021	0.023	0.025	No	No	
6/9/2021	0.023	0.025	No	No	
6/10/2021	0.022	0.024	No	No	
6/11/2021	0.022	0.024	No	No	
6/12/2021	0.022	0.024	No	No	
6/13/2021	0.017	0.023	No	No	
6/14/2021	0.011	0.022	No	No	
6/15/2021	0.015	0.021	No	No	
6/16/2021	0.023	0.021	No	No	
6/17/2021	0.024	0.022	No	No	
6/18/2021	0.024	0.022	No	No	
6/19/2021	0.024	0.022	No	No	
6/20/2021	0.024	0.022	No	No	
6/21/2021	0.024	0.022	No	No	
6/22/2021	0.026	0.022	No	No	
6/23/2021	0.026	0.023	No	No	
6/24/2021	0.025	0.023	No	No	
6/25/2021	0.023	0.023	No	No	
6/26/2021	0.023	0.023	No	No	
6/27/2021	0.022	0.023	No	No	
6/28/2021	0.021	0.023	No	No	
6/29/2021	0.021	0.023	No	No	

BP-HUSKY REFINING LLC - EAST ALSTOM BOILER NOx CEMS REPORT FOR 2ND QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
B034 - East Alstom Boiler	Yes	No	Continuous Monitoring System	6/11/21 7:00	6/11/21 9:00	CEMS out-of-control time for 2 hours.	Analyzer failed daily validation	Recalibrated and returned the analyzer to service	No	N/A	N/A

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE[1]

Pollutant: NOx

Reporting Period Dates: **From:** April 1, 2021 **To:** July 1, 2021

Company: BP-Husky Refining LLC

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2

Monitor Location: Sample port on West Alstom Boiler Stack; monitor housed at ground level in an analyzer building adjacent the boiler.

Date of Latest CMS Certification or Audit: 5/13/2021

Process Unit(s) Description: West Alstom Boiler (0448020007B035)

Total Source Operating Time in Reporting Period: 2,184 hr (TIU fuel gas was combusted for 1,850 hours and natural gas was combusted for 334 hours for a total of 2,184 hours this quarter)

CMS operating time while emission unit was in operation: 2,182 hr

Emission Limitation: 12.71 lb/hr of NO_x emissions;
38.5 tons/rolling 12-month period of NO_x emissions (combined B034 & B035);
0.10 lb NO_x (as NO_2) per mmBtu heat input 30-day rolling average

Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	2
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	2
3. Total duration of excess emissions x (100) / [Total source operating time] %[3]	0	3. [Total CMS Downtime] x (100) / [Total source operating time] %[3]	0.09

2 Record all times in hours.

[3] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - No changes since last quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen 90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: 29-Jul-2021

[1] Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - WEST ALSTOM BOILER NOx CEMS REPORT FOR 2ND QUARTER 2021

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
B035 - West Alstom Boiler	Yes	No	Continuous Monitoring System	6/11/21 7:00	6/11/21 9:00	CEMS out-of-control time for 2 hours.	Analyzer failed daily validation	Recalibrated and returned the analyzer to service	No	N/A	N/A

West Alstom Boiler - 2nd Quarter 2021 Db Data

NSPS Db: Supplemental Reporting for NO_x CEM Records as required by 40 CFR 49b(i)

This table contains the information required by 60.49(g)(1-8).
Records for (g)(9-10) are provided in the NSPS Quarterly CEMS Report.

West Alstom Boiler (B035): 353 MMBtu/hr heater fired with refinery fuel gas and/or natural gas

Calculation Methodology: NO_x emissions (lb/mmbtu) calculated from NO_x CEM (ppm) using Methodology in 40 CFR 60 Appendix A Method 19 and F factor of 8710 dscf/mmbtu from Method 19 Table 19-1 when natural gas fired; site-specific F factor determined from fuel analysis when refinery fuel gas fired.

NSPS Limit: 0.10 lb NO_x/MMBtu

Date	Hourly daily average NOx (lb/MMBtu)	30-day rolling average NOx (lb/MMBtu)	Excess Emissions (yes/no)	NOx Conc Exceeded CEM Span? (yes/no)	Comments: Reason for Missing or Invalid Data, or Excess Emissions
4/1/2021	0.025	0.022	No	No	
4/2/2021	0.025	0.022	No	No	
4/3/2021	0.024	0.022	No	No	
4/4/2021	0.024	0.023	No	No	
4/5/2021	0.023	0.023	No	No	
4/6/2021	0.023	0.023	No	No	
4/7/2021	0.023	0.023	No	No	
4/8/2021	0.022	0.023	No	No	
4/9/2021	0.023	0.023	No	No	
4/10/2021	0.022	0.023	No	No	
4/11/2021	0.023	0.023	No	No	
4/12/2021	0.023	0.023	No	No	
4/13/2021	0.024	0.023	No	No	
4/14/2021	0.024	0.023	No	No	
4/15/2021	0.030	0.023	No	No	
4/16/2021	0.030	0.024	No	No	
4/17/2021	0.028	0.024	No	No	
4/18/2021	0.028	0.024	No	No	
4/19/2021	0.026	0.024	No	No	
4/20/2021	0.026	0.024	No	No	
4/21/2021	0.027	0.024	No	No	
4/22/2021	0.027	0.024	No	No	
4/23/2021	0.027	0.025	No	No	
4/24/2021	0.024	0.025	No	No	
4/25/2021	0.025	0.025	No	No	
4/26/2021	0.026	0.025	No	No	
4/27/2021	0.029	0.025	No	No	
4/28/2021	0.031	0.025	No	No	
4/29/2021	0.028	0.025	No	No	
4/30/2021	0.029	0.026	No	No	
5/1/2021	0.029	0.026	No	No	
5/2/2021	0.030	0.026	No	No	
5/3/2021	0.028	0.026	No	No	
5/4/2021	0.029	0.026	No	No	
5/5/2021	0.030	0.026	No	No	
5/6/2021	0.029	0.027	No	No	
5/7/2021	0.028	0.027	No	No	
5/8/2021	0.027	0.027	No	No	
5/9/2021	0.026	0.027	No	No	
5/10/2021	0.026	0.027	No	No	
5/11/2021	0.026	0.027	No	No	
5/12/2021	0.026	0.027	No	No	
5/13/2021	0.026	0.027	No	No	
5/14/2021	0.026	0.028	No	No	
5/15/2021	0.026	0.027	No	No	
5/16/2021	0.026	0.027	No	No	
5/17/2021	0.026	0.027	No	No	
5/18/2021	0.025	0.027	No	No	
5/19/2021	0.027	0.027	No	No	
5/20/2021	0.026	0.027	No	No	
5/21/2021	0.026	0.027	No	No	
5/22/2021	0.025	0.027	No	No	
5/23/2021	0.022	0.027	No	No	
5/24/2021	0.021	0.027	No	No	
5/25/2021	0.023	0.027	No	No	
5/26/2021	0.024	0.027	No	No	
5/27/2021	0.024	0.026	No	No	

Date	Hourly daily average NOx (lb/MMBtu)	30-day rolling average NOx (lb/MMBtu)	Excess Emissions (yes/no)	NOx Conc Exceeded CEM Span? (yes/no)	Comments: Reason for Missing or Invalid Data, or Excess Emissions
5/28/2021	0.026	0.026	No	No	
5/29/2021	0.025	0.026	No	No	
5/30/2021	0.023	0.026	No	No	
5/31/2021	0.022	0.026	No	No	
6/1/2021	0.021	0.025	No	No	
6/2/2021	0.021	0.025	No	No	
6/3/2021	0.023	0.025	No	No	
6/4/2021	0.023	0.025	No	No	
6/5/2021	0.022	0.025	No	No	
6/6/2021	0.021	0.024	No	No	
6/7/2021	0.020	0.024	No	No	
6/8/2021	0.022	0.024	No	No	
6/9/2021	0.024	0.024	No	No	
6/10/2021	0.027	0.024	No	No	
6/11/2021	0.025	0.024	No	No	
6/12/2021	0.023	0.024	No	No	
6/13/2021	0.019	0.024	No	No	
6/14/2021	0.014	0.023	No	No	
6/15/2021	0.016	0.023	No	No	
6/16/2021	0.016	0.023	No	No	
6/17/2021	0.016	0.022	No	No	
6/18/2021	0.015	0.022	No	No	
6/19/2021	0.015	0.021	No	No	
6/20/2021	0.018	0.021	No	No	
6/21/2021	0.026	0.021	No	No	
6/22/2021	0.026	0.021	No	No	
6/23/2021	0.026	0.022	No	No	
6/24/2021	0.025	0.022	No	No	
6/25/2021	0.023	0.022	No	No	
6/26/2021	0.023	0.022	No	No	
6/27/2021	0.023	0.021	No	No	
6/28/2021	0.023	0.021	No	No	
6/29/2021	0.022	0.021	No	No	

Attachment B – Data Assessment Report

Data Assessment Report - East Side Fuel Gas Mix Drum H_2S CMS

Period ending date: June 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B008, B009, B010

CEMS Manufacturer: Siemens	*Model #:* Maxim II	*CEMS Serial #:* 30028039490020
CEMS type: Hydrogen Sulfide	*CEMS sampling location:* East Side Fuel Gas Mix Drum	

CEMS span values as per the applicable regulation:

	PPM		Percent
SO_2		O_2	
H_2S	300	CO_2	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for H_2S (ppm):

	H2S (ppm)	
	Audit #1	Audit #2
1. Date of audit	6/14/2021	6/14/2021
2. Cylinder ID number	CC416478	CC482384
Vendor	AirGas	AirGas
3. Date of certification	12/8/2020	11/11/2019
Expiration date	12/8/2023	11/11/2022
4. Type of certification	EPA Protocol	EPA Protocol
5. Certified audit value	74.18	163.50
6. CEMS response values	73.96	162.68
	72.40	161.67
	73.41	161.48
Average	73.26	161.94
7. Accuracy	-1.24%	-0.95%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - TIU Fuel Gas Mix Drum H_2S CMS

Period ending date: June 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B015, B017, B019, B022, B029, B030, B031, B032, B033, B035, P007

CEMS Manufacturer: Siemens	*Model #:* Maxim II	*CEMS Serial #:* 30020117999300
CEMS type: Hydrogen Sulfide	*CEMS sampling location:* TIU Fuel Gas Mix Drum	

CEMS span values as per the applicable regulation:

	PPM		Percent
SO_2		O_2	
H_2S	300	CO_2	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for H_2S (ppm):

	H2S (ppm)	
	Audit #1	Audit #2
1. Date of audit	6/17/2021	6/17/2021
2. Cylinder ID number	CC408964	CC482384
Vendor	AirGas	AirGas
3. Date of certification	11/19/2018	11/11/2019
Expiration date	11/19/2021	11/11/2022
4. Type of certification	EPA Protocol	EPA Protocol
5. Certified audit value	74.18	163.50
6. CEMS response values	75.70	162.10
	74.34	164.32
	81.33	165.68
Average	77.12	164.03
7. Accuracy	3.96%	0.32%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - Reformer 3 Heater H_2S CMS

Period ending date: June 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B036

CEMS Manufacturer: Siemens	*Model #:* Maxim II	*CEMS Serial #:* 30029994471080
CEMS type: Hydrogen Sulfide	*CEMS sampling location:* Reformer 3 Heater Fuel Gas	

CEMS span values as per the applicable regulation:

	PPM		Percent
SO_2		**O_2**	
H_2S	300	**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for H_2S (ppm):

	H2S (ppm)	
	Audit #1	Audit #2
1. Date of audit	6/14/2021	6/14/2021
2. Cylinder ID number	CC416478	CC482384
Vendor	AirGas	AirGas
3. Date of certification	11/19/2018	11/11/2019
Expiration date	11/19/2021	11/11/2022
4. Type of certification	EPA Protocol	EPA Protocol
5. Certified audit value	74.18	163.50
6. CEMS response values	81.62	157.42
	73.70	166.15
	71.08	159.92
Average	75.47	161.16
7. Accuracy	1.74%	-1.43%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - East Flare H_2S CMS

Period ending date: June 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P003

CEMS Manufacturer: Siemens	*Model #:* Maxim II	*CEMS Serial #:* 30050531960100
CEMS type: Hydrogen Sulfide	*CEMS sampling location:* East Flare	

CEMS span values as per the applicable regulation:

	PPM		**Percent**
SO_2		**O_2**	
H_2S	300	**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for H_2S (ppm):

	H2S (ppm)	
	Audit #1	Audit #2
1. Date of audit	6/9/2021	6/9/2021
2. Cylinder ID number	CC416478	CC482384
Vendor	AirGas	AirGas
3. Date of certification	11/19/2018	11/11/2019
Expiration date	11/19/2021	11/11/2022
4. Type of certification	EPA Protocol	EPA Protocol
5. Certified audit value	74.18	163.50
6. CEMS response values	72.67	162.23
	73.81	163.73
	75.16	164.57
Average	73.88	163.51
7. Accuracy	-0.40%	0.01%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - West Flare H_2S CMS

Period ending date: June 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P004

CEMS Manufacturer: Siemens	*Model #:* Maxim II	*CEMS Serial #:* 30050531960400
CEMS type: Hydrogen Sulfide	*CEMS sampling location:* West Flare	

CEMS span values as per the applicable regulation:

	PPM		**Percent**
SO_2		**O_2**	
H_2S	300	**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for H_2S (ppm):

	H2S (ppm)	
	Audit #1	Audit #2
1. Date of audit	6/2/2021	6/2/2021
2. Cylinder ID number	CC408964	CC482384
Vendor	AirGas	AirGas
3. Date of certification	11/19/2018	11/11/2019
Expiration date	11/19/2021	11/11/2022
4. Type of certification	EPA Protocol	EPA Protocol
5. Certified audit value	74.60	163.50
6. CEMS response values	76.82	159.53
	75.34	156.71
	77.06	158.87
Average	76.41	158.37
7. Accuracy	2.43%	-3.14%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - East Flare TS CMS

Period ending date: June 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P003

CEMS Manufacturer: ThermoFisher	*Model #:* Sola II	*CEMS Serial #:* SL-10430115	
CEMS type: Total Sulfur	*CEMS sampling location:* East Flare		
CEMS span values as per the applicable regulation:			
	PPM		
TS (low)	3,500		
TS (high)	350,000		

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable)

B. Cylinder gas audit (CGA) for TS Low (ppm) and TS High (ppm):

	TS Low		TS High	
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	6/8/2021	6/8/2021	6/8/2021	6/8/2021
2. Cylinder ID number	CC427785	CC269487	CC121778	AA073391
Vendor	Airgas	Airgas	Airgas	Airgas
3. Date of certification	3/13/2019	4/27/2021	3/18/2019	3/7/2019
Expiration date	3/13/2022	4/27/2024	3/18/2022	3/7/2027
4. Type of certification	RATA Class	RATA Class	RATA Class	EPA Protocol
5. Certified audit value	884.0	1,931	87,110	192,500
6. CEMS response values	946.5	2,057	86,818	191,562
	935.3	2,005	87,032	192,293
	925.3	1,994	87,245	192,269
Average	935.7	2,018.7	87,032	192,041
7. Accuracy	5.85%	4.54%	-0.09%	-0.24%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - West Flare TS CMS

Period ending date: June 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P004

CEMS Manufacturer: ThermoFisher	*Model #:* Sola II	*CEMS Serial #:* SL-10440115
CEMS type: Total Sulfur	*CEMS sampling location:* West Flare	

CEMS span values as per the applicable regulation:

	PPM		
TS (low)	3,500		
TS (high)	350,000		

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable)

B. Cylinder gas audit (CGA) for TS Low (ppm) and TS High (ppm):

	TS Low		**TS High**	
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	6/7/2021	6/7/2021	6/7/2021	6/7/2021
2. Cylinder ID number	CC315721	CC75507	CC62361	XC033782B
Vendor	Airgas	Airgas	Airgas	Airgas
3. Date of certification	3/13/2019	12/22/2020	3/18/2019	10/21/2020
Expiration date	3/13/2022	12/22/2023	3/18/2027	10/21/2021
4. Type of certification	RATA Class	RATA Class	RATA Class	RATA Class
5. Certified audit value	884.3	1,940.0	86,970	192,500
6. CEMS response values	883.4	1,975.2	89,796	197,092
	884.9	1,965.4	89,472	197,358
	883.5	1,959.4	89,728	197,688
Average	883.9	1,966.7	89,665	197,379
7. Accuracy	-0.05%	1.38%	3.10%	2.53%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – TIU Fuel Gas Mix Drum TS CMS

Period ending date: June 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B015, B017, B019, B022, B029, B030, B031, B032, B033, B034 B035, P007

CEMS Manufacturer: ThermoFisher	*Model #:* Sola II	*CEMS Serial #:* SL-09030713
CEMS type: Total Sulfur	*CEMS sampling location:* TIU Fuel Gas Mix Drum	
CEMS span values as per the applicable regulation:		

	PPM		
TS	3,500		

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for:

	TS (ppm)	
	Audit #1	Audit #2
1. Date of audit	6/18/2021	6/18/2021
2. Cylinder ID number	CC338715	CC218822
Vendor	Airgas	Airgas
3. Date of certification	3/13/2019	3/31/2020
Expiration date	3/13/2022	3/31/2023
4. Type of certification	RATA Class	RATA Class
5. Certified audit value	884.70	1844.00
6. CEMS response values	829.70	1905.35
	825.43	1912.83
	831.84	1893.03
Average	828.99	1903.74
7. Accuracy	-6.30%	3.24%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates: None
   b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - Reformer 3 Heater NO_x/O_2 CEM

Period ending date: June 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B036

O_2 CEMS Manufacturer: ABB	Model #: MAGNOS 106	CEMS Serial # 3.340932.7
NO_x CEMS Manufacturer: ABB	Model #: LIMAS 11	CEMS Serial # 3.340287.1

CEMS sampling location: Reformer 3 Heater stack

CEMS span values as per the applicable regulation:

	PPM		Percent
SO_2		**O_2**	25
NO_x	200	**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for NO_x (ppm):

		Vivicom	PI
1.	Date of audit:	5/18/2021	5/18/2021
2.	Reference method (RM) used:	Method 7E	Method 7E
3.	Average RM value:	33.32	33.65
4.	Average CEMS value:	29.85	29.81
5.	Absolute value of mean difference:	3.47	3.84
6.	Confidence coefficient:	0.550	0.656
7.	Percent relative accuracy: (based on applicable standard)	12.05	13.37

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

A. Relative accuracy test audit (RATA) for O_2 (%):

		Vivicom	PI
1.	Date of audit:	5/18/2021	5/18/2021
2.	Reference method (RM) used:	Method 3A	Method 3A
3.	Average RM value:	6.07	6.07
4.	Average CEMS value:	6.10	6.09
5.	Absolute value of mean difference:	0.03	0.03
6.	Confidence coefficient:	0.005	0.006
7.	Percent relative accuracy: (based on applicable standard)	0.64	0.56

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

B. Cylinder gas audit (CGA) for O_2 (%) and NO_x (ppm): (Not Applicable this quarter)

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods: None
   a. Dates:
   b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – East Alstom Boiler NO_x/O_2 CEM

Period ending date: June 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B034

O_2 CEMS Manufacturer: ABB	Model #: MAGNOS 106	CEMS Serial # 00400003357006
NO_x CEMS Manufacturer: ABB	Model #: LIMAS 11	CEMS Serial # 00400003362206
CEMS sampling location: East Alstom Boiler stack		
CEMS span values as per the applicable regulation:		

	PPM		Percent
SO_2		**O_2**	20.0
NO_x	100	**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for O_2 (% by vol. db) :

		Vivicom	PI
1.	Date of audit:	4/14/2021	4/14/2021
2.	Reference method (RM) used:	Method 3A	Method 3A
3.	Average RM value:	4.22	4.20
4.	Average CEMS value:	4.23	4.19
5.	Absolute value of mean difference:	0.004	0.010
6.	Confidence coefficient:	0.024	0.030
7.	Percent relative accuracy (based on RM values):	0.67	0.95

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

Relative accuracy test audit (RATA) for NO_x (ppmv db):

		Vivicom	PI
1.	Date of audit:	4/14/2021	4/14/2021
2.	Reference method (RM) used:	Method 7E	Method 7E
3.	Average RM value:	24.5	24.5
4.	Average CEMS value:	25.5	25.4
5.	Absolute value of mean difference:	1.07	0.98
6.	Confidence coefficient:	0.128	0.154
7.	Percent relative accuracy (based on RM values):	4.89	4.64

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

Relative accuracy test audit (RATA) for NO_x Emission Rate (lb/MMBTU):

		Vivicom
1.	Date of audit:	4/14/2021
2.	Reference method (RM) used:	Method 7E
3.	Average RM value:	0.032
4.	Average CEMS value:	0.033
5.	Absolute value of mean difference:	0.002
6.	Confidence coefficient:	0.000
7.	Percent relative accuracy (based on RM values):	6.06

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

B. Cylinder gas audit (CGA) for O_2 (%):

	O_2		
	Audit #1	Audit #2	Audit #3
1. Date of audit	5/13/2021	5/13/2021	5/13/2021
2. Cylinder ID number	BLM005117	BAL5136	CC443265
Vendor	Airgas	Air Liquide	Airgas
3. Date of certification	5/22/2020	8/30/2020	5/13/2020
Expiration date	5/22/2028	8/30/2024	5/13/2028
4. Type of certification	RATA Class	RATA Class	RATA Class
5. Certified audit value	5.55	11.00	18.03
6. CEMS response values	5.55	11.17	18.34
	5.52	11.16	18.34
	5.51	11.16	18.34
Average:	5.53	11.16	18.34
7. Accuracy	-0.36%	1.45%	1.72%

B. Cylinder gas audit (CGA) for NO_x (ppm):

	NO_x		
	Audit #1	Audit #2	Audit #3
1. Date of audit	5/13/2021	5/13/2021	5/13/2021
2. Cylinder ID number	BAL5293	XL000366B	ALM029205
Vendor	Air Liquide	Airgas	Airgas
3. Date of certification	11/2/2018	11/21/2017	2/3/2020
Expiration date	11/2/2021	11/21/2025	2/3/2028
4. Type of certification	RATA Class	RATA Class	RATA Class
5. Certified audit value	23.53	54.79	91.00
6. CEMS response values	23.66	55.25	91.24
	23.72	55.49	91.31
	23.77	55.39	91.60
Average:	23.72	55.38	91.38
7. Accuracy	0.81%	1.08%	0.42%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods. None
   a. Dates:
   b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – West Alstom Boiler NO_x/O_2 CEM

Period ending date: June 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B035

O_2 CEMS Manufacturer: ABB	Model #: MAGNOS 106	CEMS Serial # 00400003354606
NO_x CEMS Manufacturer: ABB	Model #: LIMAS 11	CEMS Serial # 00400003361106
CEMS sampling location: West Alstom Boiler stack		
CEMS span values as per the applicable regulation:		

	PPM		Percent
SO_2		**O_2**	20.0
NO_x	100	**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for O_2 (% by vol. db) :

		Vivicom	PI
1.	Date of audit:	4/15/2021	4/15/2021
2.	Reference method (RM) used:	Method 3A	Method 3A
3.	Average RM value:	3.589	3.611
4.	Average CEMS value:	3.584	3.607
5.	Absolute value of mean difference:	0.01	0.03
6.	Confidence coefficient:	NA	NA
7.	Percent relative accuracy (based on RM values):	0.02	0.04

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

Relative accuracy test audit (RATA) for NO_x (ppmv db):

		Vivicom	PI
1.	Date of audit:	4/15/2021	4/15/2021
2.	Reference method (RM) used:	Method 7E	Method 7E
3.	Average RM value:	24.1	24.1
4.	Average CEMS value:	24.6	24.6
5.	Absolute value of mean difference:	0.6	0.5
6.	Confidence coefficient:	0.061	0.067
7.	Percent relative accuracy (based on RM values):	2.54	2.38

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

Relative accuracy test audit (RATA) for NO_x Emission Rate (lb/MMBtu):

		Vivicom
1.	Date of audit:	4/15/2021
2.	Reference method (RM) used:	Method 7E
3.	Average RM value:	0.030
4.	Average CEMS value:	0.031
5.	Absolute value of mean difference:	0.001
6.	Confidence coefficient:	0.000
7.	Percent relative accuracy (based on RM values):	3.17

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

B. Cylinder gas audit (CGA) for O_2 (%):

	O_2		
	Audit #1	Audit #2	Audit #3
1. Date of audit	5/13/2021	5/13/2021	5/13/2021
2. Cylinder ID number	BLM005117	BAL5136	CC443265
Vendor	Airgas	Air Liquide	Airgas
3. Date of certification	5/22/2020	8/30/2020	5/13/2020
Expiration date	5/22/2028	8/30/2024	5/13/2028
4. Type of certification	RATA Class	RATA Class	RATA Class
5. Certified audit value	5.55	11	18.03
6. CEMS response values	5.58	11.16	18.26
	5.59	11.17	18.27
	5.59	11.17	18.27
Average:	5.59	11.17	18.27
7. Accuracy	0.72%	1.55%	1.33%

B. Cylinder gas audit (CGA) for NO_x (ppm):

	NO_x		
	Audit #1	Audit #2	Audit #3
1. Date of audit	5/13/2021	5/13/2021	5/13/2021
2. Cylinder ID number	BAL5293	XL000366B	ALM029205
Vendor	Air Liquide	Airgas	Airgas
3. Date of certification	11/2/2018	11/21/2017	2/3/2020
Expiration date	11/2/2021	11/21/2025	2/3/2028
4. Type of certification	RATA Class	RATA Class	RATA Class
5. Certified audit value	23.53	54.79	91
6. CEMS response values	23.64	54.59	90.90
	23.83	54.63	90.65
	23.84	54.97	90.20
Average:	23.77	54.73	90.58
7. Accuracy	1.02%	-0.11%	-0.46%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods. None
   a. Dates:
   b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report–FCC/CO Boiler $SO_2/NO_x/CO/O_2$ CEMS

Period ending date: June 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P007

O_2 CEMS Manufacturer: ABB	Model #: Magnos 106	CEMS Serial # 3.340569.7	
SO_2 CEMS Manufacturer: ABB	Model #: Limas 11 UV	CEMS Serial # 3.340641.7	
NO_x CEMS Manufacturer: ABB	Model #: Limas 11 UV	CEMS Serial # 3.340641.7	
CO CEMS Manufacturer: ABB Automation	Model #: URAS- 26	CEMS Serial # 3.347698.3	
CEMS sampling location: CO Boiler stack			
CEMS span values as per the applicable regulation:			
SO_2	400 PPM	**O_2**	10.0 %
NO_x	350 PPM	**CO**	1000 PPM

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for SO_2 (SO_2 lbs/1,000 lbs Fresh Feed):

		SO_2
1.	Date of audit:	5/20/2021
2.	Reference method (RM) used:	Method 6C
3.	Average RM value:	0.10
4.	Average CEMS value:	0.12
5.	Absolute value of mean difference:	0.02
6.	Confidence coefficient:	0.000
7.	Percent relative accuracy (based on applicable standard):	2.17

8. EPA performance audit results:	**Point (1)**	**Point (2)**
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

Relative accuracy test audit (RATA) for NO_x (ppmv db):

		NO_x
1.	Date of audit:	5/20/2021
2.	Reference method (RM) used:	Method 7E
3.	Average RM value:	47.86
4.	Average CEMS value:	41.67
5.	Absolute value of mean difference:	6.19
6.	Confidence coefficient:	0.845
7.	Percent relative accuracy (based on applicable standard):	3.52

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

Relative accuracy test audit (RATA) for CO (ppmv db):

		CO
1.	Date of audit:	5/20/2021
2.	Reference method (RM) used:	Method 10
3.	Average RM value:	1.41
4.	Average CEMS value:	4.33
5.	Absolute value of mean difference:	2.92
6.	Confidence coefficient:	0.125
7.	Percent relative accuracy (based on applicable standard):	0.61

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

Relative accuracy test audit (RATA) for O_2 (% by vol. db):

		O_2
1.	Date of audit:	5/20/2021
2.	Reference method (RM) used:	Method 3A
3.	Average RM value:	4.32
4.	Average CEMS value:	4.38
5.	Absolute value of mean difference:	0.06
6.	Confidence coefficient:	0.027
7.	Percent relative accuracy:	1.99

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

B. Cylinder gas audit (CGA): (Not Applicable this quarter)

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods. None
   a. Dates:
   b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – FCC Regen Line $SO_2/NO_x/CO/O_2/CO_2$ CEM

Period ending date: June 30 **Year:** 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P007

SO_2 CEMS Manufacturer: ABB	Model #: Limas 11 UV	CEMS Serial # 3.240685.3
NO_x CEMS Manufacturer: ABB	Model #: Limas 11 UV	CEMS Serial # 3.240682.3
CO CEMS Manufacturer: ABB	Model #: URAS 14	CEMS Serial # 3.240684.3
O_2 CEMS Manufacturer: ABB	Model #: Magnos 206	CEMS Serial # 01400101195301
CO_2 CEMS Manufacturer: ABB	Model #: Limas 11 UV	CEMS Serial # 3.240682.3
CEMS sampling location: FCC Regen Line stack		
CEMS span values as per the applicable regulation:		

SO_2	500 PPM	**O_2**	25.0 %
NOx	200 PPM	**CO**	1000 PPM
CO_2	50.0 %		

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for SO_2 (ppmv db):

		Vivicom	PI
1.	Date of audit:	5/19/2021	5/19/2021
2.	Reference method (RM) used:	Method 6C	Method 6C
3.	Average RM value:	95.90	95.90
.	Average CEMS value:	85.42	85.10
5.	Absolute value of mean difference:	10.48	10.80
6.	Confidence coefficient:	3.627	3.712
7.	Percent relative accuracy (based on applicable standard):	14.71	15.13

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

Relative accuracy test audit (RATA) for NO_x (ppmv db):

		Vivicom	PI
1.	Date of audit:	5/19/2021	5/19/2021
2.	Reference method (RM) used:	Method 7E	Method 7E
3.	Average RM value:	48.26	48.26
4.	Average CEMS value:	42.37	42.26
5.	Absolute value of mean difference:	5.89	6.0
6.	Confidence coefficient:	0.906	0.883
7.	Percent relative accuracy (based on applicable standard):	14.08	14.26

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

Relative accuracy test audit (RATA) for CO (ppmv db):

		Vivicom	PI
1.	Date of audit:	5/19/2021	5/19/2021
2.	Reference method (RM) used:	Method 10	Method 10
3.	Average RM value:	422.71	422.71
4.	Average CEMS value:	390.82	388.29
5.	Absolute value of mean difference:	31.89	34.42
6.	Confidence coefficient:	3.413	5.309
7.	Percent relative accuracy (based on applicable standard):	8.35	9.4

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

Relative accuracy test audit (RATA) for O_2 (% by vol. db):

		Vivicom	PI
1.	Date of audit:	5/19/2021	5/19/2021
2.	Reference method (RM) used:	Method 3A	Method 3A
3.	Average RM value:	1.99	1.94
4.	Average CEMS value:	2.24	2.16
5.	Absolute value of mean difference:	0.26	0.21
6.	Confidence coefficient:	0.041	0.026
7.	Percent relative accuracy:	14.89	12.17

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

Relative accuracy test audit (RATA) for CO_2 (% by vol. db):

		Vivicom	PI
1.	Date of audit:	5/19/2021	5/19/2021
2.	Reference method (RM) used:	Method 3A	Method 3A
3.	Average RM value:	16.30	16.30
4.	Average CEMS value:	16.32	16.30
5.	Absolute value of mean difference:	0.02	0.00
6.	Confidence coefficient:	0.064	0.077
7.	Percent relative accuracy:	0.53	0.47

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

B. Cylinder gas audit (CGA): (Not Applicable this quarter)

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods. None
   a. Dates:
   b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – Sulfur Recovery Unit (SRU #1) SO_2/O_2 CEM

Period ending date: June 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P009

SO_2 CEMS Manufacturer: Ametek	Model #: 919	CEMS Serial #: ZB-919SP-10541-1
O_2 CEMS Manufacturer: Ametek	Model #: 919	CEMS Serial #: ZB-919SP-10541-1
CEMS sampling location: SRU Thermal Oxidizer		
CEMS span values as per the applicable regulation:		

	PPM		Percent
SO_2	500	**O_2**	10.0
NO_x		**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for SO_2 (ppmv db):

		Vivicom	PI
1.	Date of audit:	5/28/2021	5/28/2021
2.	Reference method (RM) used:	Method 6C	Method 6C
3.	Average RM value:	103.77	103.77
4.	Average CEMS value:	83.65	83.18
5.	Absolute value of mean difference:	20.12	20.59
6.	Confidence coefficient:	2.546	2.474
7.	Percent relative accuracy (based on applicable standard):	9.07	9.22

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

Relative accuracy test audit (RATA) for O2 (% by vol. db):

		Vivicom	PI
1.	Date of audit:	5/28/2021	5/28/2021
2.	Reference method (RM) used:	Method 3A	Method 3A
3.	Average RM value:	4.65	4.65
4.	Average CEMS value:	4.64	4.64
5.	Absolute value of mean difference:	0.00	0.01
6.	Confidence coefficient:	0.029	0.038
7.	Percent relative accuracy (based on applicable standard):	0.69	1.04

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

B. Cylinder gas audit (CGA): (Not Applicable this quarter)

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates:
   b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – Sulfur Recovery Unit #2 and #3 (TRP SRU) SO_2/O_2 CEM

Period ending date: June 30 Year: 2021
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P037

SO_2 CEMS Manufacturer: Ametek	Model #: 919	CEMS Serial #: ZX-919-10814-1
O_2 CEMS Manufacturer: Ametek	Model #: 919	CEMS Serial #: ZX-919-10814-1
CEMS sampling location: TGT #2 Thermal Oxidizer stack		
CEMS span values as per the applicable regulation:		

	PPM		Percent
SO_2	500	**O_2**	10.0
NO_x		**CO_2**	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for SO_2 (ppmv db):

		Vivicom	PI
1.	Date of audit:	5/26/2021	5/26/2021
2.	Reference method (RM) used:	Method 6C	Method 6C
3.	Average RM value:	53.39	53.39
4.	Average CEMS value:	43.22	43.16
5.	Absolute value of mean difference:	10.17	10.22
6.	Confidence coefficient:	0.627	0.624
7.	Percent relative accuracy (based on applicable standard):	4.32	4.34

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

A. Relative accuracy test audit (RATA) for O2 (% by vol. db):

		Vivicom	PI
1.	Date of audit:	5/26/2021	5/26/2021
2.	Reference method (RM) used:	Method 3A	Method 3A
3.	Average RM value:	5.37	5.37
4.	Average CEMS value:	5.20	5.19
5.	Absolute value of mean difference:	0.17	0.18
6.	Confidence coefficient:	0.082	0.084
7.	Percent relative accuracy (based on applicable standard):	4.72	4.91

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm^3)		
e. Relative error*		

*To be completed by the Agency

B. Cylinder gas audit (CGA): (Not Applicable this quarter)

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
   a. Dates:
   b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Table B1 - Calibration Drift Assessment; Out-of-Control Periods for Part 60

CEMS	Start Time	End Time	Hours	Corrective Action Taken
West Flare TS	4/3/2021 7:00	4/4/2021 9:00	26	Recalibrated and returned the analyzer to service.
West Flare TS	4/28/2021 7:00	4/29/2021 6:00	23	Recalibrated and returned the analyzer to service.
West Flare TS	4/29/2021 16:00	4/30/2021 11:00	19	Recalibrated and returned the analyzer to service.

Table B2 – Calibration Drift Assessment; Out-of-Control Periods for Part 63

CEMS	Start Time	End Time	Hours	Corrective Action Taken
SRU 1 SO2	5/10/2021 7:00	5/10/2021 8:00	1	Recalibrated and returned analyzer to service.
SRU 1 SO2	5/12/2021 7:00	5/12/2021 8:00	1	Recalibrated and returned analyzer to service.
SRU 1 SO2	5/17/2021 7:00	5/17/2021 9:00	2	Techs changed both lamps, optimized and set up analyzer. Recalibrated and returned the analyzer to service
SRU 1 SO2	5/26/2021 7:00	5/26/2021 8:00	1	Recalibrated and returned analyzer to service.
SRU 1 SO2	6/27/2021 7:00	6/27/2021 8:00	1	Recalibrated and returned analyzer to service.
#2 & #3 Sulfur Recovery Units / TRP SRU SO2	4/1/2021 7:00	4/1/2021 8:00	1	Recalibrated and returned analyzer to service.
#2 & #3 Sulfur Recovery Units / TRP SRU SO2	4/2/2021 7:00	4/2/2021 8:00	1	Recalibrated and returned analyzer to service.
#2 & #3 Sulfur Recovery Units / TRP SRU SO2	5/21/2021 7:00	5/21/2021 8:00	1	Recalibrated and returned analyzer to service.

Per 40 CFR Part 63.8(c)(7)(i), a CMS is out of control if the zero, mid-level, or high-level calibration drift (CD) exceeds two times the applicable CD specification in the applicable performance specification or in the relevant standard. These instances are reported in Table B2 above.